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ABSTRACT

The 1975 evaluation report for the Career Education Instructional System's exemplary project at Newark School District, Delaware, describes the evaluator's activities in accomplishing four tasks. In the first task, each of the 155 curriculum units developed by the project was classified according to instructional goals by school, grade level, and title and related to the federal guidelines for evaluation of career education projects. The second task identified subobjectives appropriate to student groups. Preparation and implementation of the process, product, and side-effects evaluation activities of the evaluation plan are described in the third and fourth tasks, including document review, interviews with project management and teachers, and random group testing. In addition, evaluation of the three project goals--community involvement, curriculum development and implementation, and dissemination of project materials--is presented. Recommendations for project improvement included continued development of individual career guidance components, continued expansion of curriculum materials, and increased emphasis on evaluating product outcomes. Most of the document consists of appended tabular evaluation data. (MF)

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Year 2
Third-Party Annual Evaluation Report
Career Education Instructional System
Project

Newark School District
Newark, Delaware

USOE Grant No. OEG-0-74-0955

Project No. V000IVW

Review Period: January 1, 1975 through
December 31, 1975

Raymond G. Wasdyke

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INTRODUCTION

The information in this second annual evaluation report is based upon Educational Testing Service's involvement with the Newark, Delaware Career Education Instructional System's (CEIS) Project from January 1, 1975 through December 31, 1975. The purpose of the evaluation is threefold: first, to assess the extent to which the goals of the project have been achieved; second, to assess the extent to which project-related activities have produced side effects; and third, to provide feedback to the project management for decision-making.

In planning and conducting the evaluation, an attempt was made, as closely as possible, to conform to the Federal Guidelines for evaluation of career education projects. During this period, the evaluation was under the direction of Mr. Raymond G. Wasdyke, a project director in ETS's Elementary and Secondary School Programs Division, and Mr. J. Robert Cleary, Associate Director of ETS's Consulting, Advisory and Field Services Division.

CEIS PROJECT REVIEW

The CEIS project is a federally sponsored project which is entering its third year of operation. During its second year of operation, it involved the participation of approximately 800 students in grades K-3, 1,500 students in grades 4-6, 1,000 students in grades 7-8 and 500 students in grades 9-12. The project is basically developmental in nature with implementation of the curriculum and

other materials developed during the life of the project occurring according to a schedule determined by the teachers.

The project's goals focus on the involvement of a broad spectrum of the community in planning, developing, and implementing the project, developing and implementing a kindergarten-through-eighth-grade career education curriculum, and disseminating the materials developed by the project.

EVALUATION ACTIVITIES

ETS's evaluation activities during the second year included the accomplishment of 4 specific tasks as outlined in its proposal. Some of the tasks were directed at the development of specific work products, as required in the Federal Guidelines, while others were more process-oriented. The following describes ETS's activities related to these tasks.

Task 1. Completion of Treatment Group Outcome Area Tables

The Treatment Group Outcome Area Tables (TG/OA) plot and classify each of the 155 curriculum units developed by the CEIS project. Each of the units describes the implementation of career education concepts in a unique way. Also the decision to implement each unit is determined by the teacher. Therefore each unit can be viewed as a separate treatment. In essence, then, the TG/OA tables contain 155 treatments

The TG/OA tables contain the following information for each of the schools involved in the CEIS project:

- (1) Name of teacher implementing the unit
- (2) Unit's grade level
- (3) Unit's title
- (4) Instructional goals covered by each unit

(5) Relationship between each unit's instructional goals and student outcome statements as defined in the Federal Guidelines

Because curriculum units were not developed for implementation at the secondary level, the tables are limited to grades K through 8. (They may be found in Appendix B of the evaluation plan, pages 34 through 52.) Since TG/OA tables are included as part of the evaluation plan and to avoid redundancy, they are not presented in this report as a separate appendix.

Task 2. Completion of Outcome Question Treatment Group Matrix

The Outcome Question Treatment Group Matrix (OQ/TGM) identifies the specific sub-objectives of the Guidelines' design which are appropriate to student groups. Teachers involved in the CEIS project provided the information in the OQ/TGM tables. The OQ/TGM tables appear in Appendix C of the evaluation plan, pages 53 through 99.

The completion of the TG/OA and OQ/TGM tables demonstrates one of the fundamental weaknesses of the Guidelines. Both of these products focus on the anticipated effects of treatment to student groups and exclude non-student groups. Consequently, if one restricts evaluation activities to those required in the Guidelines; the specification of intended outcomes for non-student groups would not be included. However, since the CEIS project deals with non-student outcomes, provisions were made to include these in subsequent evaluation activities.

Task 3. Preparation of Evaluation Plan

ETS developed an evaluation plan that conformed to the Federal Guidelines for evaluation where reasonable and yet was responsive to the unique characteristics of the CEIS project. The plan's preparation included a thorough review of the Guidelines and CEIS project documents. Interviews with CEIS management staff and teachers were also conducted to provide yet other sources of information.

ETS views the plan as a developmental one, increasing in precision and sophistication over the tenure of the project. Due to the length of the evaluation plan, it is not included in the main body of the report, but is found in Appendix A.

In brief, the evaluation plan serves the purposes of the evaluation, as mentioned earlier. (See Introduction p. 1) Process, product, and side-effects evaluation activities are outlined in the plan, as well as data collection sources from student and non-student groups. Process evaluation is designed to provide information to the project management staff for decision-making purposes. Product evaluation focuses on student assessment and is embedded in a pretest-posttest design using treatment and non-equivalent comparison groups. Side-effects evaluation is intended to assess the worth of unanticipated project outcomes. Selection of student and non-student groups and events to be investigated were determined by random-selection procedures and in close cooperation with the CEIS project staff.

Task 4. Implementation of Evaluation Plan

The intention of Task 4 was the implementation of the process, product and side-effects evaluation activities specified in the evaluation plan. Because the CEIS project is funded on a calendar- rather than on a fiscal-year basis, it was impossible to meet all of the requirements for evaluation specified in the plan. For example, since many of the treatment groups were exposed to some sort of project-related activity prior to the approval of the plan, pretest and posttest data were not collected on a large scale.

ETS's findings, conclusions, and recommendations are grouped under each of the CEIS project's broad goals as stated in its original proposal.

CEIS GOALS

Goal A

Given the opportunity, time, and funding necessary for continued involvement of the total community (business, industry, and education, parents and students) in the on-going development of the Career Education Instructional System, community participants will be able to:

1. Provide advisory services through participation as members of the Career Education Project Advisory Council.
2. Directly participate in program development by serving as members of elementary, middle, and high school Career Education Ad Hoc/Task Force Committees.
3. Serve as resource consultants to career education program development teams and career-related classroom activities.

Findings and Conclusions

ETS attended two Career Education Project Advisory Council meetings, interviewed select Council members, and reviewed Council and Ad Hoc/Task Forces documents as a means of gathering data pertinent to the stated goal. ETS also performed a discrepancy and verification analysis between planned and completed management activities associated with this goal area.

The findings of this analysis indicate that the functioning of the Council has been guided by the project's management plan. Meetings have been held on schedule, Ad Hoc/Task Forces have been established and are operating as intended, and the planned Council reorganization has taken place. During the past year, the Council has shifted from its initial efforts to get the project off to a good start and has taken a policy making and task-oriented approach.

The Council's agenda for 1975 included the following:

- Identifying priority areas for career education in the Newark district

- Monitoring the operation of the CEIS project
- Initiating policy about the scope and expansion of career education in the district
- Serving as communications interface between the schools and community
- Facilitating and focusing community input relating to career education

To accomplish these and other activities, the Council has established the following task forces:

- (1) Community Task Force
- (2) Dissemination Task Force
- (3) Guidance Task Force
- (4) Curriculum Task Force

The most significant achievement of the Career Education Project Advisory Council was the development and implementation of the Educational Resources Association (ERA) as a cooperative effort between the Council, the Newark School District, and the DuPont Company. ERA was formed in response to teachers' requests for up-to-date and accurate information about the availability of resource assistance for implementing career education programs. ERA provides a link between the community and the schools through the identification and cataloging of more than 1,000 sources of assistance that are available to teachers. In addition to providing the cataloging, ERA acts as a liaison between the teachers and resources through a centralized agency. The findings of a thorough investigation of Council and project documents, interviews with select Council members, and ERA staff indicates that ERA was initiated, developed, and implemented by the Council. Therefore it can be classified as a positive, unintended outcome of the project.

In conclusion, the project is to be commended for carrying out activities designed to meet the project's goal concerning involving the community in the

on-going development of the CEIS project. The formation and implementation of ERA deserves special mention.

Recommendations

The continuing growth and development of the Career Education Advisory Council is attributable to the leadership of the CEIS project direction staff. During the upcoming year when federal support for the project will end and decisions will have to be made about continuing the project, their leadership will be tested even more. Although it is unlikely that the project will cease to exist after the federal funding has been discontinued, the role of the Council, project staff, and ERA will certainly be changed. To ensure that the transition from project to a more formal status will occur smoothly, it is recommended that the Council and project staff consider as a key item on their 1976 agenda the issues, problems, and decisions that will be brought to bear on the Council when federal funding is terminated.

Goal B.

Given the opportunity, time, and funding necessary for continued development and implementation of a kindergarten-through-grade-12 Career Education Instructional system, project participants will be able to:

1. Develop guidelines for career-related curriculum development at the elementary, middle, and high school levels.
2. Develop career-related programs to be implemented at the elementary, middle, and high school levels. These programs will include (a) performance objectives, (b) student activities, and (c) academic-vocational interdisciplinary approaches.

Findings

ETS's findings are based on the results of a teachers' survey and on-site

visits to the following schools: Brookside Elementary School, Leasure Lower School, MacLary Elementary School, McVey Elementary School, Central, Gauger, and Ogletown Middle Schools, and Christiana, Glasgow, and Newark High Schools. Select members of the instructional and administrative staff were interviewed in each of the schools visited.

The teachers' survey was conducted in the spring of 1975 for the purpose of providing the project management staff with process and formative data. The information gathered in this survey included: sources of information provided by the CEIS project staff; the amount of feedback requested from the project staff concerning the development and implementation of the curriculum units and the degree and type of modification needed to improve the overall quality of the units; opinions of how well students liked the units; sources of assistance for improved curriculum implementation, project constraints, instructional methods used in presenting the curriculum units, and the emphasis of the curriculum units.

The findings based upon returns for 91 percent of the 57 teachers involved in the CEIS project, are summarized below:

- (1) The most frequently reported sources of information provided to the teachers by the project staff were project reports, textbooks, instructional manuals and other printed reference materials.
- (2) The teachers reported that the project staff requested feedback from them about three times per school year.
- (3) The teachers reported that the curriculum units developed did not require any significant degree of modification before being disseminated.
- (4) Seventy percent of the teachers reported that the students liked the units very much, and 30 percent reported that the students liked the units somewhat.

- (5) The three most frequently reported sources of assistance requested by the teachers were funds for purchasing special materials, release time for instructional preparation, and inservice preparation.
- (6) The most frequently reported types of constraints were lack of sufficient funds and lack of inservice preparation.
- (7) The teachers reported that over half of the curriculum units developed are related to improving student growth in each of the following areas: self-awareness; basic academic and vocational skills; work values; knowledge of the world of work, and career decision making.

A complete discussion of the survey's methodology, findings, and results are found in ETS's second Quarterly Report, Appendix B.

Consistent with this year's emphasis on dissemination by the project staff, the evidence suggests that the curriculum units have been installed to a significant degree in participating schools. The project direction staff have determined to influence career education at the secondary level through the development and implementation of a career guidance system. For this reason, curriculum units comparable to those found at the elementary and middle school levels are not present at the secondary level. However, an extensive and varied amount of guidance materials, primarily for student use, are present and easily available at the secondary level. Evidence as defined here consisted of the presence of bulletin boards and corridor displays focusing on career education themes, student and teacher career education resource centers, teachers' logs of instructional activities related to career education, teachers' utilization logs of ERA, audio-visual materials related to job information, and other materials related to career education.

A review of the project's management plan indicates that the project staff

were responsive to teachers' requests for increased inservice and workshop activities. Summer workshop activities were designed to provide teachers and counselors with the opportunity to modify and refine the curriculum units that had been developed previously and initiate work on preparing a Guidance Development Plan. Summer workshops included the participation of 67 teachers and counselors representing 6 elementary and 4 middle schools, 3 high schools, and 1 parochial school. Since last summer, the project staff have prepared transportable inservice guides that can be used by individuals in leadership positions to conduct inservice workshops in non-project sponsored schools.

A major goal for the project staff this year was the preparation of a comprehensive career guidance plan and the development of select guidance components. Through inservice workshops and contractual agreements with counselors, a career guidance plan was developed and materials describing each of the plan's 36 individual components were prepared. ETS's findings concerning the development and implementation activities in support of this goal were obtained by a careful analysis of the career guidance plan and its components.

ETS also spent two days on-site visiting career resource centers and interviewing 26 counselors who participated in the development of the plan or individual guidance components. The findings show that the guidance plan is consistent with comparable plans and the known attributes of successful guidance programs. Analysis of each of the guidance components indicates that the majority of them are related to career guidance and that the successful implementation of these components in the Newark schools will, in effect, constitute a career guidance system. However, these components, as well as the career guidance plan, are still in the developmental stage and further refinement and modification will be needed to maximize the potential contribution these materials can make to

improving the career guidance offerings.

Interviews with teachers indicated that they are receiving and using the program materials and that the counselors had a positive attitude about the CEIS project and that they feel attention must be paid to the critical area of career development. All of the counselors felt certain that their contribution in the development of the guidance materials would be effective in bringing about student growth in career development. In no instance did the counselors have a less than favorable attitude about their involvement in the project. The findings do suggest, however, that the counselors are uncertain about how the individual guidance components relate to one another. This is to be expected however since the components are relatively new on the scene.

To prepare for the final evaluation phase, ETS conducted a pilot test of student instruments in the late fall of 1975 to determine the extent to which the instruments were sensitive to detecting changes in students' behavior after exposure to the CEIS curriculum units. A pretest-posttest design with intact treatment and non-equivalent comparison groups was used. Because the posttest data have not been collected from all of the classes involved in the pilot testing, the findings reported here are limited to one treatment and comparison class at the third grade level. Currently, the data are being collected from other third grade classes with data collection at the middle and secondary levels scheduled for the spring of 1976.

ETS, in close cooperation with the CEIS project direction staff, selected the instruments to be pilot tested. Figure 1 shows the instruments tentatively selected for measuring what students learned as a result of instruction. The initial choice of these instruments was based upon careful review and analysis of instruments recommended in the Guidelines and contained in ETS's test

Figure 1

Recommended Assessment Instruments for
Career Education Instructional Systems Project
Newark, Delaware

Grade	Student Outcome Statement*	Assessment Instrument	Number of Questions	Type of Questions	Test Administration Time
3	I. Self Awareness	Piers-Harris Children's Self Concept Scale: "The Way I Feel About Myself"	80	Yes-No	15-20 minutes
	II. Basic Academic Skills	Iowa Test of Basic Skills			Part of Newark districtwide testing program
	IV. Awareness and Knowledge of World of Work	Career Education Cognitive Questionnaire CECQ, 1-3	40	Matching	30-45 minutes
	Total Test Administration Time				45-65 minutes
6	I. Self Awareness	Piers-Harris Children's Self Concept Scale: "The Way I Feel About Myself"	80	Yes-No	15-20 minutes
	II. Basic Academic Skills	Iowa Test of Basic Skills			Part of current testing program
	IV. Awareness and Knowledge of World of Work	Career Education Cognitive Questionnaire CECQ, 4-6	50	Matching, Multiple-Choice	30-45 minutes
	Total Test Administration Time				45-65 minutes

* Statements appear in Guidelines for Evaluation, Developmental Associates, Inc. 1974.

Figure 1 Cont.

Grade	Student Outcome Statement*	Assessment Instrument	Number of Questions	Type of Questions	Test Administration Time
8	I. Self Awareness	Piers-Harris Children's Self Concept Scale: "The Way I Feel About Myself"	80	Yes-No	15-20 minutes
	II. Basic Academic Skills	Iowa Test of Basic Skills			Part of current testing program
	IV. Awareness and Knowledge of World of Work	Assessment of Career Development, Houghton Mifflin, (ACD) Composed of following sub-scales:			
		1. Occupational Characteristics	40	Multiple Choice	15 minutes
		2. Occupational Prerequisites	14		15 minutes
		5. Career Planning Knowledge	40	Multiple Choice	20 minutes
	V. Career Decision Making**	Assessment of Career Development, Houghton-Mifflin (ACD)			
		5. Career Planning Knowledge	na	na	na
		4. Career Planning Activities	38	Checklist, Multiple Choice	20 minutes
		3. Career Plans	4	Fill in	10 minutes
		6. Exploratory Job Experiences	90	Checklist	20 minutes

* Statements appear in Guidelines for Evaluation, Developmental Associates, Inc. 1974

** Tests will be distributed to students on a random basis. Half of each class will take units 1, 2, and 5 of the ACD and the other half will take units 4, 3 and 6. Total administration time for grade 8 is approximately 65-70 minutes.

collection files. Final determination of the instruments to be used in the third and final year of the project will be made upon evaluation of the empirical data collected from the pilot testing. A brief description of the instruments reviewed by ETS is found in Appendix C.

The findings reported here are based upon one intact grade 3 class exposed to a CEIS curriculum unit over a six-week period and one intact comparison class that did not receive any formalized instruction related to career education during the same time span. As shown in Table 1, analysis of the differences in the mean gain scores within treatment and comparison groups for the Career Education Cognitive Questionnaire for Grades 1 through 3 indicates that the differences in the mean gain scores is statistically significant at the ($p < .01$ level).

Table 1
Differences in Mean Gain Scores
within Treatment and Comparison Groups
for CEQ 1-3

	<u>Mean Pretest Scores</u>	<u>Mean Posttest Scores</u>	<u>Mean Gain Scores</u>	<u>t-Value</u>
Tn = 21	28.524	31.048	2.524	3.164*
Cn = 23	28.348	29.044	.696	.64

Analysis of differences in mean gain and posttest scores on the CEQ 1-3 between treatments and comparison groups, however, is not statistically significant

* t significant at well beyond .01 level.

as is illustrated in Table 2 and Table 3.

Table 2

Differences in Mean Gain Scores
between Treatment and Comparison Groups
for CEQ 1-3

	<u>Mean Pretest Scores</u>	<u>Mean Posttest Scores</u>	<u>Mean Gain Scores</u>	<u>t-Value</u>
Tn = 21	28.524	31.048	2.524	1.358
Cn = 23	28.348	29.044	.696	

Table 3

Differences in Mean Posttest Scores
between Treatment and Comparison Groups
for CEQ 1-3

<u>Mean Posttest Score Treatment n=21</u>	<u>Mean Posttest Score Comparison n=23</u>	<u>t-Value</u>
31.048	29.044	1.367

An analysis was also performed to determine the relationship between membership in the treatment or comparison groups and mean posttest scores on the CEQ 1-3. Table 4 shows the correlation between membership and score to be positive but not statistically significant. However, if the strength and direction of the correlation holds with the larger number of cases in the final evaluation group, the relationships between mean pretest scores and exposure to treatment will be significant.

Table 4
Relationship of Mean Posttest Score
to Membership in Treatment or Comparison Group
for CEQ 1-3

<u>N</u>	<u>Grade</u>	<u>Correlation</u>
44	3	.202

The Piers-Harris Children's Self Concept Scale: "The Way I Feel About Myself", was also administered on a pretest-posttest basis to the groups. As shown in Table 5, differences in the mean gain scores within treatment and comparison groups for the Piers-Harris was not statistically significant. The mean gain scores and the t-value is greater, however, for the treatment than the comparison group.

Table 5
Differences in Mean Gain Scores
within Treatment and Comparison Groups
for Piers-Harris

	<u>Mean Pretest Scores</u>	<u>Mean Posttest Scores</u>	<u>Mean Gain Scores</u>	<u>t-Value</u>
Tn = 22	56.046	58.364	2.318	1.167
Cn = 24	57.667	58.833	1.167	.504

Analysis of differences between mean gain scores and mean posttest scores on the Piers-Harris for treatment and comparison groups indicated no significant differences as displayed in Table 6 and Table 7. Although the treatment group had a higher mean gain score than the comparison group the difference between both groups' mean posttest scores were extremely small.

Table 6

Differences in Mean Gain Scores
between Treatment and Comparison Groups
for Piers-Harris

	<u>Mean Pretest Scores</u>	<u>Mean Posttest Scores</u>	<u>Mean Gain Scores</u>	<u>t-Value</u>
Tn = 24	56.046	58.364	2.318	.383
Cn = 24	57.667	58.833	1.167	

Table 7

Differences in Mean Posttest Scores
between Treatment and Comparison Groups
for Piers-Harris

<u>Mean Posttest Score Treatment n=22</u>	<u>Mean Posttest Score Comparison n=24</u>	<u>t-Value</u>
58.364	58.833	.122

There is no relationship between membership in either the treatment or control group and mean posttest scores on the Piers-Harris as found in Table 8.

Table 8

Relationship of Mean Posttest Score
to Membership in Treatment or Comparison Group
for Piers-Harris

<u>N</u>	<u>Grade</u>	<u>Correlation</u>
46	3	-.02

Test-Retest reliability was computed for the CEQ 1-3 and the Piers-Harris for both the treatment and comparison groups. Table 9 shows the estimates of

test-retest reliability. Since test and retest were administered over a six-week period, the reliability coefficients are lower-bound estimates and indicate the tests are highly reliable.

Table 9

Test/Retest Reliability
for CEQ 1-3 and Piers-Harris
for Treatment and Comparison
Groups

	<u>CEQ 1-3</u>	<u>Piers-Harris</u>
Treatment Group	.592	.756
Comparison Group	.494	.604

The findings and results of this limited pilot testing study does suggest that the CEQ 1-3 is a highly reliable instrument, is sensitive to measuring students' awareness and knowledge of the world of work, and that scores on the instrument are related to exposure to treatment. Although the mean gain score on the Piers-Harris was greater for the treatment than the comparison group, the lack of any difference between the mean posttest scores for the groups and the lack of correlation between test scores and exposure to treatment indicates that the Piers-Harris may not be appropriate for use in the evaluation. However, final determination of the inclusion of either instrument in the final evaluation must be postponed until additional empirical data have been collected and analyzed.

Recommendations

- (1) Attention should be directed at specifying objectives of the individual career guidance components in terms of anticipated student outcomes.

- (2) In order to increase the potential of the individual guidance components, attention should be given to identifying and then exploring ways that these components can be linked together in a logical and systematic way. As a spin-off of this process, unmet guidance needs would also be identified which could serve as the focus of future guidance developmental efforts.
- (3) The identification and linking of existing projects will undoubtedly require the development of a more comprehensive career guidance plan than is currently in existence. Thus, consideration should be given to the development of a comprehensive plan which contains a description of anticipated student outcomes in career development and a planned sequence of guidance experiences designed to achieve these outcomes.
- (4) Considerable thought and discussion should be given to the issue of career development program implementation in the Newark School District. The basic issue is whether the CEIS project's program activities in career development are viewed as an add-on or as a redirection of the current guidance program. We consider the resolution of this issue as fundamental to the successful implementation of the guidance component of the CEIS project.
- (5) Attention should be directed to the identification and development of evaluation criteria and strategies for assessing the outcome of the career guidance components. These criteria and strategies should be established in corroboration with the third-party evaluator.

Goal C

Given the opportunity, time, and funding necessary to maximize the distribution of Career Education Instructional System information, project coordinators and

participants will be able to:

1. Prepare sufficient copies of materials for dissemination.
2. Disseminate information through the Newark School District and the State Department of Public Instruction.
3. Provide technical assistance to new project participants.

Findings

The results of ETS's discrepancy analysis indicated that curriculum and other instructional materials developed by the CEIS project were disseminated as specified in the management plan. Project materials were disseminated through the American Institute for Research, the ERIC system, the USOE Career Library, school leaders, and key district personnel. The materials have also been disseminated to the Seaford School District and other select school districts in Delaware. Moreover, there is evidence that the materials are readily available and in widespread use within the Newark School District. Also, the project has been extensively publicized through print and broadcast media.

It was determined, through interviews with teachers and the results of the teachers' survey, that the CEIS project staff have provided adequate technical assistance to project participants. Assistance is typically provided to teachers through inservice workshops, school and district-level conferences, team leaders, and on an individual request basis. Periodically scheduled guidance meetings provided a way of giving technical assistance to guidance staff working on the project. The findings suggest that the materials developed by the CEIS project have been disseminated according to the management plan and that an adequate level of technical assistance is being offered to project participants within the Newark School District. A discussion of the results of the teachers' survey

is presented in Appendix C.

Recommendations: The preparation of the guidance materials are in the same formative stage of development as the curriculum materials were a year ago. It is therefore recommended that after the guidance materials have been thoroughly field-tested, steps should be taken to disseminate these materials through the same avenues used for dissemination of curriculum materials.

OVERALL CONCLUSIONS

The CEIS project direction staff are to be commended for the work that has been accomplished during the second year of the project. Significant achievements include the reorganization of the Career Education Project Advisory Council, the development and implementation of a comprehensive career guidance plan and career guidance components, and the widespread dissemination of curriculum and other instructional materials. Inservice workshops for teachers and counselors have also been expanded and a transportable inservice instructional module has been developed.

Recommendations for project improvement include continued development of the individual career guidance components, continued expansion of the project curriculum materials into additional classes, and increased emphasis on evaluating the product outcomes of the project.

APPENDIX A
EVALUATION PLAN

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AN EVALUATION PLAN FOR THE CAREER EDUCATION
INSTRUCTIONAL SYSTEM PROJECT
NEWARK, DELAWARE

Introduction

This paper presents a plan for the evaluation of the Career Education Instructional System Project (CEIS) operating in the Newark, Delaware school district. The purpose of the evaluation is threefold: first, to assess the extent to which the goals of the project have been achieved; secondly, to assess the extent to which project related activities have produced side effects; and lastly, to provide feedback to the project management for decision-making. In developing the evaluation plan, an attempt was made, as much as possible, to conform to the federal guidelines for evaluation of career education projects.

In preparation for developing the evaluation plan, ETS thoroughly reviewed the federal guidelines and CEIS project related documents. Discussions with CEIS project staff and teachers were also conducted to provide yet another source of information. Specific documents required in the federal guidelines to be included in the evaluation plan were also developed. Like most evaluation plans, the plan will be modified and improved during the course of the evaluation and should not be thought of as being a rigid and inflexible document.

CEIS Project Review

The CEIS project is a federally funded project which is entering its second year of project operation. During the year 1975, it will involve the participation of approximately 800 students in grades K-3, 1500 students in grades 4-6, 1000 students in grades 7-8. The project is basically developmental in nature with implementation of the materials developed during the course of the project occurring on a teacher self-selection basis.

CEIS project goals include:

Goal A. Given the opportunity, time and funding necessary for continued involvement of the total community (business, industry, and education,

parents and students) in the on-going development of the Career Education Instructional System, community participants will be able to:

1. Provide advisory services through participation as members of the Career Education Project Advisory Council.
2. Directly participate in program development by serving as members of elementary, middle, and high school Career Education Ad Hoc/ Task Force Committees.
3. Serve as resource consultants to career education program development teams and career related classroom activities.

Goal B. Given the opportunity, time and funding necessary for continued development and implementation of a kindergarten through grade twelve Career Education Instructional system, project participants will be able to:

1. Develop guidelines for career related curriculum development at the elementary, middle, and high school levels.
2. Develop career related programs to be implemented at the elementary, middle, and high school levels. These programs will include (a) performance objectives, (b) student activities, and (c) academic-vocational interdisciplinary approaches.

Goal C. Given the opportunity, time and funding necessary to maximize distribution of Career Education Instructional System information, project coordinators and participants will be able to:

1. Prepare sufficient copies of prepared materials for dissemination.
2. Disseminate prepared information through the Newark School District and the State Department of Public Instruction.
3. Provide technical assistance to new project participants.

In reference to Goal A, the CEIS project has formed a Career Education Project Advisory Council with representatives from business, industry, local government, community agencies and education. Meetings have been held and the Council has played a major role in shaping the policies and direction of the CEIS project. Ad Hoc Task Forces have also been formed and shared a major role in formulating the instructional goals for the project in the areas of (1) career awareness, (2) career exploration, and (3) career exploration and specialization.

Activities dealing with Goal B have focused on the development of curriculum units in career education. Inservice workshops in the summers of 1974 and 1975 have resulted in the development of 195 curriculum units. The breakdown of the number of units developed in each of the project's instructional areas is: (1) career awareness (grades K-5) 95 units, (2) career exploration (grades 6-8) 60 units and (3) career exploration and specialization (grades 9-12) 40 units. The units developed for the career exploration and specialization in grades 9 through 12 however, were not viewed by the teachers and project staff as being successful and, therefore, will not be used in the school year 1975-76. The instructional objectives in the units are well stated and consistent with the broad instructional goals of the project, as well as the instructional methodology and evaluation sections of the units.

The curriculum units and other career education materials developed by the CEIS project have been disseminated within the Newark School District in partial fulfillment of Goal C. Curriculum materials can be found in the project's participating schools career education resource centers and in many of the individual classrooms. At this point however, the units, except in some isolated instances, have not been disseminated outside of the Newark School District.

Relationships Between CEIS Instructional Goals and Student Outcome Statements

The CEIS project conceptualized career education by three phases; an awareness phase, an exploration phase and an exploration and specialization phase. In each of these phases, instructional goals have been developed. In the left hand column of Figure 1. are the instructional goals of the project in each of the phases. Across the top of Figure 1. is a list of the student outcome statements in career education which appear in the federal guidelines.

The matrix in Figure 1. was constructed in order to determine the relationship between the CEIS instructional goals and the student outcome statements in the federal guidelines. An "X" in a column under the heading "Student Outcome Statements" indicates a relationship between an instructional goal and a student outcome statement. As graphically shown in Figure 1. each one of the CEIS project instructional goals is related to one or more of the student outcome statements. However, as was stated previously, CEIS project related activities are, for the most part, not taking place at the secondary level. The project

FIGURE 1
COMPARISON BETWEEN CEIS INSTRUCTIONAL GOALS
AND STUDENT OUTCOME STATEMENTS

Career Education Instructional Systems Instructional Goals Instructional Goals	STUDENT OUTCOME STATEMENTS	Increased Self Awareness	Basic Academic & Vocational Skills	Awareness of Work Values-Desire to Work	Awareness and Knowledge of Work	Competency in Career Decision Making	Good Work Habits	Work Seeking and Work Getting Skills	Placed in Occupa- tion or Further Education	Aware of Means of Continued Educa- tion
		I*	II	III	IV*	V*	VI	VII	VIII*	IX
AWARENESS PHASE (K-5)										
1. Positive Attitudes About the Per- sonal & Social Significance of Work				X						
2. Pupil's Self Awareness		X								
3. Expand the Occupational Awareness and Aspirations				X	X	X				
4. Improve Performance by Unifying Subjects Around Career Development			X							
EXPLORATION PHASE										
5. Experiences to Assist in Evaluat- ing Interests, Abilities, Values & Needs as they Relate to Occupa- tional Roles		X		X	X	X				
6. Opportunities for Further Explora- tion of Selected Occupational Clusters Leading to Selection for Indepth Exploration					X	X		X		
7. Improve Performance in Subject Areas by Unifying Around Career Development			X							
EXPLORATION AND SPECIALIZATION PHASE (9-12)										
8. Provide Indepth Exploration & Training in one Occupational Cluster for Entry Level Skill Plus Option to Move Between Clusters						X	X	X		
9. Improve Performance in Subject Areas by Unifying Around Career Development			X							
10. Provide Guidance & Counseling to Assist in Selecting Occupational Specialty with Options					X					X
11. Provide Intensive Preparation in Selected Cluster or Specific Occupation							X			
12. Provide Placement of Students in a) Job, b) Post Secondary Occupa- tional Program, or c) Four Year College									X	X
* Minimum Evaluation Areas										

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intends to work in this area however, through the development of a comprehensive career education guidance system at the secondary level. Thus, the only instructional goal which is currently receiving attention by the CEIS project at the secondary level is goal number 10 (i.e. provide guidance and counseling to assist in selecting occupational speciality with options).

The other instructional goals in the exploration and specialization phase (i.e. instructional goals number 8, 9, 11, 12), although originally planned to receive attention by the CEIS project, are already being met to a large degree through the present instructional system. Therefore, to avoid duplication of effort the CEIS project direction staff decided to focus the project's attention on the development of a comprehensive career education guidance system rather than on other existing instructional areas.

As part of ETS's formative and process evaluation activities conducted in the spring of 1975, ETS asked the teachers involved in the CEIS curriculum developmental effort to judge the relationship between the units they developed and the student outcome statements listed in the federal guidelines. The purpose of this task was to determine the major emphasis of the curriculum units as judged by the teachers. ETS also performed this same task. A comparison between teachers and ETS judgements yielded a high degree of consistency.

As shown in Table 1, 84% (N=130 units) of the 155 units developed relate to improving basic academic and vocational skills with approximately the same percentage found at the elementary and middle school levels. Awareness and knowledge of the world of work is covered by 79% (N=120 units) of the units. Seventy-one percent of the units at the elementary school level deal with awareness and knowledge of the world of work and 86% at the middle school level. Seventy-eight percent (N=120 units) of the units deal with awareness of work values and the desire to work. At the elementary school level 73% of the units deal with this student outcome statement as compared to 83% at the middle school level. Competency in career decision making is covered by 77% (N= 118 units) of the units with 72% of the elementary units and 81% of the middle school units covering this area. Increased self awareness is found in 48% (N=71 units) of the units. Forty percent of the elementary school units and 55% of the middle school units relate to this outcome area. Less than 21% (N=35 units) relate to work seeking and work getting skills, placement

Table 1

**RELATIONSHIPS BETWEEN STUDENT OUTCOME STATEMENTS
AND CAREER EDUCATION CURRICULUM UNITS**

<u>Student Outcome Statements</u>	<u>Elementary School Level</u>		<u>Middle School Level</u>		<u>Totals</u>	
	<u>Number of Units</u>	<u>Percent of Units</u>	<u>Number of Units</u>	<u>Percent of Units</u>	<u>Number of Units</u>	<u>Percent of Units</u>
* I. Increased Self Awareness	36	40%	35	55%	71	48%
II. Basic Academic and Vocational Skills	76	83%	54	84%	130	84%
III. Awareness of Work Values-Desire to work	67	73%	53	83%	120	78%
* IV. Awareness and Knowledge of World of Work	65	71%	55	86%	120	79%
* V. Competency in Career Decision Making	66	72%	52	81%	118	77%
VI. Good Work Habits	27	30%	8	12%	35	21%
VII. Work Seeking and Work Getting Skills	6	7%	15	23%	21	15%
VIII. Placed in Occupation or Further Education	0	0%	0	0%	0	0%
IX. Awareness of Means of Continued Education			2	3%	0	1.3%
Total number of units at elementary level - 91						
Total number of units at middle level - 64						

in an occupation or further education, or awareness of means of continued education. The student outcome statements noted with an asterisk require third-party evaluation as specified in the federal guidelines.

Interest in performing this task was also for the purpose of determining the emphasis of the evaluation. ETS maintains that it is imperative that the evaluation of student outcomes focus on those instructional goals judged by the teachers a being of importance. Since ETS had previously determined the relationship between CEIS instructional goals and student outcome statements in the federal guidelines (see Figure 1) a decision could be now made as to the focus of the student evaluation. In order to meet the requirements of the evaluation of the federal guidelines and be responsive to project instructional goals ETS plans to concentrate on evaluating the following student outcome statements: I. Increased Self Awareness: II. Basic Academic and Vocational Skills: IV. Awareness and Knowledge of the World of Work; and V. Competency in Career Decision Making. These student outcome statements are related to the following CEIS project instructional goals: Awareness Phase, 2. Pupil's Self Awareness, 3. Expand the Occupational Awareness and Aspirations, and 4. Improve Performance by Unifying Subjects Around Career Development; and Exploration Phase, 5. Experiences to Assist in Evaluating Interests, Abilities, Values and Needs as they Relate to Occupational Roles, 6. Opportunities for Further Exploration of Selected Occupational Clusters Leading to Selection for Indepth Exploration, and 7. Improve Performance in Subject Areas by Unifying Around Career Development.

Limitations of Evaluation

Since career education activities not conducted under the aegis of the the CEIS Project are prevalent in the Newark School District it is important that ETS establish some boundaries or limitations of its evaluation efforts in order to focus on those career education activities directly related to the project. Although the pervasiveness of career education activities and the unknown influence that these activities have on the CEIS project make this is a difficult task, ETS intends to limit its evaluation to those career education activities which were funded and brought about by the CEIS project. Thus, career education activities which were present before the CEIS project was operating, such as vocational education, job placement, etc., will not be part of the evaluation. However, job placement rates and other indices might

be used to assess the impact of the CEIS project.

Student and Nonstudent Evaluation Groups

The draft federal guidelines prepared by Developmental Associates, Inc. are intended to aid career education programs in conducting third-party evaluations and are not intended to hinder either program management or evaluation. The guidelines focus on product evaluation for elementary through secondary school students, with little attention being given to process evaluation or evaluation of nonstudent groups. These two areas are a major concern to the CEIS project.

Nonetheless, an attempt was made to conform to the federal guidelines where appropriate to the CEIS project. Since only one of the CEIS project goals deals explicitly with student groups it was important to identify other groups which are involved with the project. Table 2 lists targeted student and nonstudent groups involved in the CEIS project.

Table 2
Targeted Student and Nonstudent Groups
Involved in the CEIS Project

Student Groups	Nonstudent Groups
Elementary Schools	Counselors ✓
- Brookside	Administrators
- Cobbs	Advisory Council Members
- Leasure	Teachers
- Maclary	
- McVey	
- Wilson	
Middle Schools	
- Central	
- Gauger	
- Ogletown	

Treatment Group / Outcome Area Tables

The Treatment Group / Outcome Area Table (TG/OA) plots and classifies each of the 155 curriculum units developed by the CEIS project. Since each one of the units deals with some career education concept and the decision to present each unit is made by the individual each one of the units can be considered a treatment. In essence, the TG/OA tables contain 155 treatments. The TG/OA tables are presented in Appendix B.

The TG/OA tables contain the following information for each of the schools involved in the CEIS project:

- (1) Teacher presenting the unit.
- (2) Grade level for each unit.
- (3) Title of each unit.
- (4) What instructional goals each unit covers.
- (5) What student outcome statements each unit covers (i.e., statements listed in federal guidelines).

Because curriculum units are not currently being taught at the secondary level the TG/OA tables were limited to grades K through 8.

The task of completing the TG/OA tables demonstrates one of the fundamental weaknesses of the guidelines. The nine outcome statements listed in the guidelines all relate to student outcomes. Consequently, there is no system for classifying and plotting outcomes for non-student groups.

Outcome Question / Treatment Group Matrix

The Outcome Question/Treatment Group Matrix (OQ/TGM) identifies the specific sub-objectives of the Guidelines' design which are appropriate to each of the student groups. Since each of the Guidelines' objectives relate to student objectives, this matrix is completed only for student groups. Teachers involved in the CEIS project provided the initial input for the OQ/TGM. The OQ/TGM appears in Appendix C.

As stated previously, the purpose of the evaluation is threefold: (1) to provide feedback to the project management for decision making; (2) to assess the extent to which the goals of the project have been achieved; and (3) to assess the extent to which project related activities have produced side effects. Each one of these purposes is further discussed in subsequent sections of the evaluation under the headings of process evaluation, product evaluation and side effects evaluation.

PROCESS EVALUATION

Purpose of Process Evaluation

Process evaluation provides information to project directors for the purpose of making decisions about the day-to-day operation of a project. Process evaluation has three primary functions. The first function is to provide feedback to the project directors so that they can monitor the operation of the project and detect potential problems in the developmental and implementation aspects of the project before they become acute. The second function has to do with helping project directors make day-to-day decisions during the course of the project. Lastly, process evaluation serves the purpose of recording the occurrence of events through the life of the project.

Identification of Process Activities

An effective process evaluation is dependent upon the identification of explicitly stated activities designed to achieve the project's stated goals and objectives. In this regard, the CEIS project direction staff is to be commended in their preparation of a management plan for the life of the project (see Appendix A). The CEIS management plan covers processes associated with all of the intended target groups and will be used as the basic document for formulating the process evaluation.

Classification of Activities

In order to provide a conceptual frame of reference for the process evaluation, a three dimensional model is presented in Figure 2. This model defines appropriate process activities for the project according to CEIS project goals, targeted groups and activities. The purpose of the model is to aid in the selection of appropriate activities for process evaluation. Since process evaluation is most beneficial if it focuses on the expressed needs of project management, the selection of activities to be included for process evaluation will be made in cooperation with the CEIS project director.

Identification of Outcomes

In addition to specifying broad and specific objectives for the student target groups (i.e., elementary and middle school students) the CEIS project director has also specified objectives for nonstudent target groups such as

advisory committee members, counsellors, etc. Although these have not been spelled out completely for all groups, the project is to be commended for their work on this task. These objectives are included as part of the project's management plan (see Appendix A).

Process Evaluation Questions

Before one can expect changes in student behavior, individuals who come in contact with students must in some way, change their behavior. Nonstudent groups including teachers, counselors, administrators and to some extent, employers, must change their behavior as a prerequisite for student behavioral change. In order to bring about behavioral changes in nonstudent groups, three elements must be present: (1) knowledge, (2) attitude, and (3) resources (Hardy, 1975). Thus an effective evaluation design can be based, in part, on the determination of the knowledges, attitudes, and resources of nonstudent groups. Examples of evaluation questions in each of these areas follows.

Knowledge

Do teachers know the goals of career education for their respective grade level?

Attitude

Do principals view career education as a worthwhile concept?

Resources

Do teachers have access to relevant career education resource materials?

Actions

Are counselors using career education materials as part of the guidance process?

Answers to these and similar questions will provide valuable feedback to the project director about the strengths and weaknesses of the project as well as insight into possible explanations for the presence or absence of student achievement.

Steps in Process Evaluation

A list of the steps to be used in systematically conducting process evaluation is shown in Table 3 and a form has been prepared which will be used in recording and formulating the evaluation strategy (see Figure 3).

The following is a description of the elements of the Process Evaluation Form (PEF).

Table 3

Steps for Process Evaluation

1. Evaluator reviews CEIS management plan with project directors.
2. Evaluator selects activities to be evaluated with approval of project directors.
3. Evaluator prepares Process Evaluation Description Form (PEDF) for each activity to be evaluated.
4. Evaluator prepares calendar for data collection activities and coordinates data collection with project directors and target groups.
5. Data collected according to PEDF.
6. Data analyzed according to PEDF.
7. Report of PEDF prepared by Evaluator to be included in next project quarterly report.

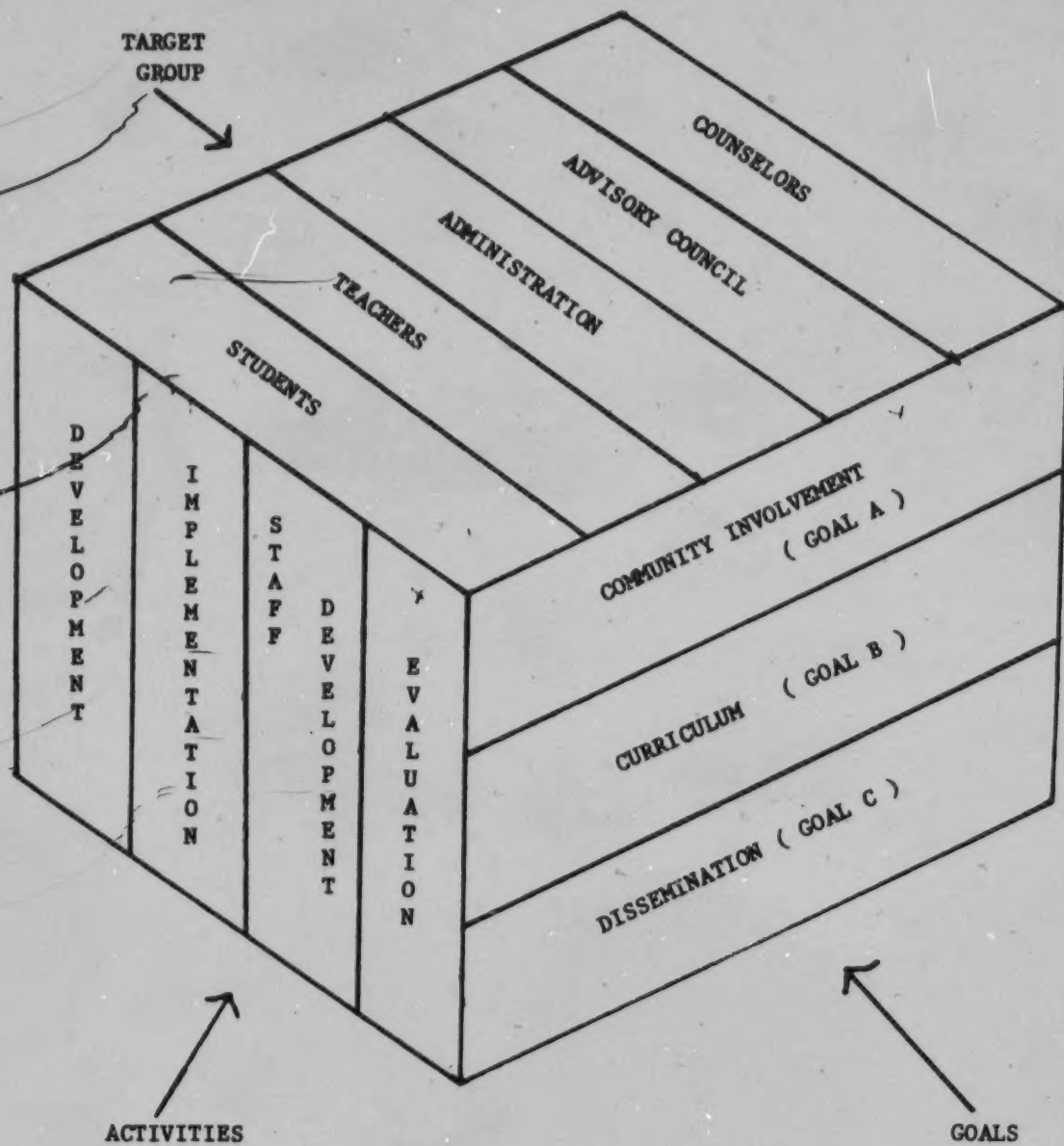


FIGURE 2

CONCEPTUAL MODEL FOR PROCESS EVALUATION

(1) Identification of Target Group

Since the CEIS project has a large number of target groups which will receive services from the project it is imperative that each group be explicitly stated and identified. Many of the process evaluation activities are aimed at groups of people (i.e., teachers, counselors, administrators, etc.) and may require sampling as contrasted to census evaluation. If a sample is used, the size and method of drawing the sample will be reported.

(2) Identification of Critical Dates

The critical dates include the start and completion dates for all project related activities, important due dates for the submission of project documents and reports, and any significant interim dates. These dates are already part of the CEIS project management plan and will be used by ETS to determine when would be most appropriate to evaluate the impact of a particular activity.

(3) Method of Assessment

The methods for assessment for process evaluation are more varied and less rigorous than those used for student product evaluation. Assessment methods will most likely include the use of interviews, questionnaires, and review of planning documents, project records and others.

(4) Type of Analysis

The type of analysis to be used in conjunction with process evaluation may range from a trip report of the evaluator to the use of multigroup descriptive and inferential statistical analyses. The type of analyses will be reported on the PEF, (Process Evaluation Form).

(5) Sample Items

In order to provide consistency between evaluators and to aid in interpreting the data, sample items will be provided on the Process Evaluation Form.

The primary source of information for completing the PEF will be the CEIS management plan. Once the PEF and the evaluation has been completed, a report will be written including a copy of the PEF and a description of the results, conclusions and recommendation of the particular process evaluation.

Figure 3

Process Evaluation Form

<u>Activity:</u>	<u>Method of Assessment</u>	<u>Target Sample</u>	<u>Critical Eval. Dates</u>	<u>Type of Analysis</u>	<u>Sample Items</u>
<u>Outcome</u>					
Knowledge					
Attitude					
Resources					
Action					

Notes:

The identification and selection of activities to be Process Evaluated will be based on the CEIS management plan. Due to time and fiscal constraints, it will be impossible to evaluate all of the activities included in the management plan. In order to provide as wide a coverage as possible, ETS plans to make decisions in cooperation with the project staff in order to insure that the evaluations serve the expressed needs of the staff and also in the interest of evaluating as many of the cells in the Process Evaluation model as possible (see Figure 2). Every attempt will be made to conduct at least one evaluation activity in 50% of the model's cells before January 1, 1976. An example of possible entries for the PEF is shown in Figure 4.

Fictitious Sample

Figure 4.

Process Evaluation Form

<u>Activity:</u>	<u>Method of Assessment</u>	<u>Target Sample</u>	<u>Critical Eval. Dates</u>	<u>Type of Analysis</u>	<u>Sample Items</u>
<u>Outcome</u>	<u>Interview</u>	<u>Workshop Participants</u>	<u>Data Collection 6/15/75</u>	<u>Trip Report</u>	1. Do you know the purposes of the workshop?
Knowledge	Interview	X	X	X	2. Do you think the development of an inservice manual will really be effective?
Attitude	Interview	X	X	X	
Resources	Interview	X	X	X	
Action	Inservice Career Education Manual	X	Sept. 1, 1975	None	3. Has the CEIS project director provided you resources (e.g. consultants, secretarial support to develop the manual?
<u>Notes:</u>					

PRODUCT EVALUATION

Purpose of Product Evaluation

Product evaluation focuses on the degree to which program goals have been achieved (Anderson, Ball and Murphy, 1975). For the purposes of the CEIS project, product evaluation is defined as the measurement of student outcomes in those target groups receiving some direct career education treatments. This particular context treatment refers to each one of the career education units developed by teachers for use in the CEIS project.

Identification and Selection of Student Group

The target student groups to be included in product evaluation for the period September 1, 1975 to December 31, 1975 are limited to elementary and middle schools involved in the CEIS project. As was reported earlier, no evidence can be cited which supports the involvement of secondary school students in career education treatments under the aegis of the CEIS project, therefore, this student group will not be included in product evaluation activities during the time frame stated above. In the Newark School District, secondary school includes grades 9 through 12.

As was stated previously, the determination of classes to be included in the product evaluation will be made in early September, 1975 when information is available about what classes will be involved in the CEIS project during the first half of school year 1975-76. Due to the absence of this information the number of students or classes to be included in the product evaluation cannot be determined at this time. Also, decisions about the type of sampling design to be used to draw the sample will have to wait until more information is available about the number and levels of grades involved in the CEIS project.

Evaluation Design

ETS plans to implement a pretest-post test comparison group design based upon a sample of intact classes within grade levels. In operationalizing the design, ETS plans to pretest and post test the classes immediately before and immediately after receiving the treatment (treatment is defined as the

implementation of a career education curriculum unit in a given class) in order to increase the probability of achieving significant differences between the two measures. Furthermore, by avoiding the more typical pattern of pretesting in the fall and post testing in the spring, ETS will be able to identify early in the life of product evaluating which instruments seem to be most sensitive to the treatments. This information should enhance the likelihood of measuring the significant effects of the units.

Identification and Selection of Comparison Groups

ETS plans to identify comparison groups using a two step process. In the first step, ETS plans to identify those intact classes not reported as being involved in the CEIS project. Information will be gathered on each class's possible unintended exposure to the CEIS project or career education concepts comparable to those found in CEIS curriculum units. The classes will then be ranked according to the amount or level of exposure to career education concepts. The second step will involve selecting those comparison group classes which have the lowest exposure rate. ETS plans to select the same number of classes in the comparison group as those in the treatment or experimental group. For example, Leasure Elementary School had a total of five 4th grade classes, two of which were receiving CEIS treatment, ETS would select those two out of the remaining three which has the lowest exposure rate to form the comparison group.

Identification and Selection of Instruments

The identification and selection of instruments to be used for measuring the attainment of career education competencies is a challenging task. Since product evaluation will focus on grades kindergarten through eight, many of the more promising instruments will not be able to be administered because they have been developed for use with secondary school students. Also, many of the instruments appropriate for administration at the elementary and high school level are poorly designed and have relatively little statistical data to support their underlying assumptions. (ETS is currently reviewing available career education instruments for possible use in the evaluation.)

Another problem is the interpretation of the subscales on published tests and their relationship to the CEIS project goals and objectives. Although ETS has reached consensus with the CEIS project staff on the relationship

between CEIS goals and student outcome statements listed in the federal Guidelines (see Figure 1) differences are bound to exist between what a test purports to measure and project goals and objectives.

In approaching this problem, ETS is currently surveying available career education instruments for use in the evaluation. After this survey has been completed and a pool of potential instruments has been identified, ETS plans to review these instruments with the CEIS project staff and teachers to make the final selection. ETS also plans to work in cooperation with the Newark, Delaware director of testing in this selection process.

Once the instruments have been selected and teachers have indicated what curriculum units will be taught during the first half of the school year, ETS will prepare a testing schedule. The testing schedule will include the name or section of the test to be administered, test dates for pretesting and post testing, and the names of the schools and teachers in the treatment and comparison groups. The following is a list of some of the guiding principles to be used in conducting the product evaluation:

- (1) A pretest-post test comparison group will be sought for all instruments.
- (2) Total testing time for students will not exceed two hours.
- (3) Project staff, teachers and the Newark director of testing will be involved in reviewing instruments.
- (4) Teachers will be notified two weeks in advance of testing data.
- (5) Testing dates will be checked with the director of testing to avoid possible conflicts with other testing programs.

Data Analysis

Detailed plans for data analysis of the results of the product evaluation will be made after reviewing the raw data. It is planned, however, that distributions, means and standard deviations will be generated for each group tested. The final determination of the appropriate statistic to use when comparing differences between pretests and post tests and between treatment and comparison groups will have to wait until the data has been closely inspected.

SIDE EFFECTS EVALUATION

Purpose of Side Effects Evaluation

Evaluators should try to assess not only the intended outcomes of an educational project but also unintended outcomes. The assessment of unintended outcomes is referred to as side effects evaluation. The CEIS project involves the interaction of a wide array of target groups and as such the likelihood of unintended outcomes seems highly probable. For example, the CEIS advisory committee is made up of representatives of governmental, educational and community agencies and business and industry working together to realize the project goals. This interaction might result in a positive side effect such as increasing the availability of cooperative education work stations or changing the attitudes of businesses toward on-site class visitations. Conversely, it is also possible that this interaction could be viewed by the council members as being a waste of time and might result in some members sharing a negative view about the CEIS project specifically and career education in general.

Identification and Selection of Side Effects to be Evaluated

Two of the major problems encountered in evaluating side effects are: Which potential side effects should be evaluated? Who makes the decisions? (Anderson, Ball and Murphy, 1975) The problem of deciding which side effects to study out of a potentially unlimited number is not an easy problem to resolve. In an attempt to focus this decision making process, ETS plans to limit its investigation of side effects to those concerned with the project management and the CEIS advisory committee. In terms of answering the second question, ETS plans to make this decision in cooperation with the CEIS project directors.

Similar to the elements of the process evaluation model, ETS has prepared a list of steps for side effects evaluation which is illustrated in Table 4. A form for recording side effects evaluation (SEEF) has also been prepared and is displayed in Figure 5. An example of possible entries for the SEEF is shown in Figure 6.

Table 4

Steps for Side Effects Evaluation

1. Evaluator identifies possible side effects with project directors.
2. Evaluator determines which side effects to evaluate with approval of project director.
3. Evaluator prepares Side Effects Evaluation Form (SEEF) for each side effect to be evaluated.
4. Evaluator prepares calendar for data collection activities and coordinates data collection with project directors and target groups.
5. Data collected according to SEEF.
6. Data analysed according to SEEF.
7. Report of SEEF prepared by Evaluator to be included in next project quarterly report.

Figure 5

Side Effects Evaluation Form

Side Effect:

Intended Target Group:

Process Trace:

Outcome:

Method of
Assessment

Target
Sample

Critical
Eval. Dates

Type of
Analysis

Sample Items

Knowledge

Attitude

Resources

Action

Notes:

Figure 6

Side Effects Evaluation Form

Side Effect: The formation of Education Resources Associates

Intended Target Group: CEIS teachers, employees

Process Trace: Trace formation of ERA through project documents

<u>Outcome:</u>	<u>Method of Assessment</u>	<u>Target Sample</u>	<u>Critical Eval. Dates</u>	<u>Type of Analysis</u>	<u>Sample Items</u>
Knowledge	Interview	Teachers	Sept. 30, 1975	Trip Report	1. Do you know how to use ERA services?
Attitude	X	Employees	Sept. 30, 1975	X	2. Has ERA improved the scheduling of class visitations?
Resources	X	Teachers	Sept. 30, 1975	X	3. Have you been able to use the services of ERA easily?
Action	Formation of Education Resource Associates	Teachers	Sept. 30, 1975	X	4. How many times have you used the ERA catalog?

Notes:

Appendix A

CEIS Management Plan

CEIS MANAGEMENT PLAN

GOAL STATEMENT: A. Given the opportunity, time and funding necessary for continued involvement of the total community (business, industry, education, parents, and students) in the ongoing development of the Career Education Instructional System, community participants will be able to: 1) Provide advisory services through participation as members of the CEP Advisory Council; 2) Directly participate in program development by serving as members of elementary, middle, and high school CE Ad Hoc Committees; 3) Serve as resource consultants to career program development teams and career related classroom activities.

Objective/Activity Code No.	Description	Time Frame	Grades	Schools	Budget
Objective A. 1.0	To conduct regular meetings of the Newark School District Career Education Advisory Council	By 1/2/75-1/1/77			
Activities A. 1.1	To make recommendations relative to project priorities. 1975 (3/1/75) 1976 (3/1/76)	3/1/75 3/1/76			
A. 1.2	To recommend procedures that provide for an orderly interface between career related educational programs and the community support systems	3/1/75			
A. 1.3	To appoint and reappoint Council members from education, business, industry, and the community. 1975 (5/1/75) 1976 (5/1/76)	5/1/75 5/1/76			
Objective A. 2.0	To support and assist the activities of Educational Resources Associates (ERA) as a separate but correlated activity of career education.	1/2/75 1/1/77			
Activities A. 2.1	To assist ERA in planning and correlating community resources to career education programs.	2/1/75			
A. 2.2	To encourage project and inservice participants to utilize ERA as a supportive classroom resource.	10/1/75			

CEIS MANAGEMENT PLAN

GOAL STATEMENT: A.

Objective/Activity Code No.	Description	Time Frame	Grades	Schools	Budget
Objective A. 3.0	To identify the frequency of community resource utilization in participating schools.	By 1/2/75 1/1/77			
Activities A. 3.1	Survey schools to determine participant utilization of community resources such as field trips, resource people, consultants, etc.	1975 1976 6/1/75 6/1/76			
Objective B. 1.0	To edit, refine, and modify developmental instructional programs currently being piloted in district schools.	1/2/75 10/1/75			
Objective B. 2.0	To design and implement an inservice program for the purpose of expanding CE instructional programs to other teachers. This program will include orientation and training.	3/1/75 12/30/76			
Activities B. 1.1 2.1	Secure district and school administrative support for scope of the curriculum management plan and participant involvement that include activities specified for objectives B.1.0 and B. 2.0	3/1/75			
B. 1.2 2.2	Identify school career education program leaders and alternates that will accomplish the editing and inservice tasks.	3/1/75			

CEIS MANAGEMENT PLAN

GOAL STATEMENT: B.

Objective/Activity Code No.	Description	Time Frame	Grades	Schools	Budget
Activities B. 1.4	Initiate pre-summer leadership training program for school leaders and district supervisors to accomplish: a. familiarization with district and commercial career materials; b. outline scope and sequence of inservice programs that include school year orientation and training with followup summer activities.	4/15/75			
B. 2.4	Secure building administrator support for school inservice programs as outlined by project coordinators and leadership teams.	5/1/75			
B. 1.5 2.5	Conduct summer workshops for school teams to comprehensively plan for staff inservice to include both school year and followup summer inservice and to revise developmental materials needed to accomplish this inservice program.	8/15/75			
B. 1.6	Print instructional materials as refined.	10/1/75			
B. 2.6	Implement the inservice plan.	10/1/75			
B. 2.7	Revise inservice plan according to feedback from initial school year and summer inservice evaluation.	9/30/76			
B. 2.8	Reimplement inservice program for additional teachers	10/1/76			

CEIS MANAGEMENT PLAN

GOAL STATEMENT: B.

Objective/Activity Code No.	Description	Time Frame	By		
			Grades	Schools	Budget
Objective B. 3.0	To continue developmental activities in specified elementary/middle schools.	1/2/75	1/1/77		
Activities B. 3.1	Identify schools with special needs to either initiate or complete career education program development.		4/1/75		
B. 3.2	Secure specific proposals from these schools to accomplish programmatic tasks within specified career education objectives and budgetary constraints.		4/30/75		
B. 3.3	Identify teacher participants.		4/30/75		
B. 3.4	Plan summer workshops to accomplish school proposal objectives.		5/15/75		
B. 3.5	Implement workshop activities.		8/1/75		
B. 3.6	Pilot materials in classroom.		9/1/75		
B. 3.7	Identify new alternatives for secondary career programs.		11/1/75		
B. 3.8	Develop plans and identify sites for secondary programs.		2/1/76		
B. 3.9	Revise, refine, and edit pilot materials.		9/1/76		
B. 3.10	Add new materials to the career education inservice package.		10/1/76		

CEIS MANAGEMENT PLAN

GOAL STATEMENT: B.

Objective/Activity Code No.	Description	Time Frame	Grades	Schools	Budget
Objective B. 4.0	Develop, review, and refine goals of a K-12 school guidance program in conjunction with district administrators and counselors.	1/2/75-1/1/77			
Objective B. 5.0	Outline a developmental plan which will provide for the implementation of a school and district guidance program.	1/2/75 1/1/77			
Activities B. 4.1	Draft objectives and submit copy to counselors and administrators for their commentaries. (first draft)	2/15/75			
B. 5.1	Outline developmental plan to include tentative objectives, illustration of pilot, developmental, and dissemination. (first draft)	2/15/75			
B. 5.2	Identify professional staff who will develop and pilot model components.	3/15/75			
B. 5.3	Identification of goals, subgoals, and model components for priority status and long term developments. (1975)	4/1/75			
B. 5.4	Conduct pre-summer and summer planning workshops for planning of priority components.	4/1/75			
B. 5.5	Initiate developmental work on selected guidance model components.	4/1/75			
B. 5.6	Present 1975 plan to school administrators encouraging their leadership, participation and suggestions.	6/1/75			

CEIS MANAGEMENT PLAN

GOAL STATEMENT: B.

Objective/Activity Code No.	Description	Time Frame	Grades	Schools	Budget
Activities B. 5.7	Present plan to the guidance staff of each secondary school encouraging their participation, recommendations, and active involvement.	By 6/1/75			
B. 4.2	Conduct summer workshops to include the tasks of review and rewriting first draft goals and guidance model component developmental work.	9/1/75			
B. 5.1	Outline developmental plan to include tentative objectives, illustration of pilot, developmental, and dissemination. (second draft)	10/1/75			
B. 4.3	Second draft of objectives submitted to counselors and administrators for their comments and suggestions.	1/30/76			
B. 5.3	Identification of goals, subgoals, and model components for priority status and long term developments. (1976)	4/1/76			
B. 5.6	Present 1976 developmental work on selected guidance model components according to priorities.	8/1/76			
B. 5.7	Present 1976 plan to the guidance staff of each secondary school encouraging their participation, recommendations, and active involvement.	6/1/76			
B. 5.9	Initiate developmental work on selected guidance model components according to priorities.	8/1/76			

CEIS MANAGEMENT PLAN

GOAL STATEMENT: B.

Objective/Activity Code No.	Description	Time Frame	Grades	Schools	Budget
Activities B. 4.4	Conduct summer workshops to refine and edit objectives for inclusion in district guidance program.	By 9/30/76			
B. 5.1	Outline developmental plan to include tentative objectives, illustration of pilot, developmental, and dissemination. (final draft)	9/1/76			
B. 5.10	Evaluate, refine, modify, and integrate the tested pilots into the school and district guidance program.	9/30/76			
B. 5.11	Develop a district guidance handbook to include goals and components.	1/1/77			
B. 5.12	Develop process for continued development and evaluation.	1/1/77			

CEIS MANAGEMENT PLAN

GOAL STATEMENT: C.					
Objective/Activity Code No.	Description	Time Frame	Grades	Schools	Budget
Objective C. 1.0	To disseminate career education materials according to project objectives and federal guidelines.	By 1/2/75			1/1/77
Activities C. 1.1	Publish a career education newsletter to include classroom activities, recent career education developments, resources, and materials.				3/1/75
C. 1.2	Disseminate information and materials appropriately to the community, teachers, administrators, DPI, and USOE.				12/30/75
C. 1.3	Identify procedures that could provide for broader dissemination via cost sharing.				6/1/75
C. 1.2	Disseminate information and materials appropriately to the community, teachers, administrators, DPI, and USOE.				12/30/76

Appendix B

Treatment Group / Outcome Area Tables

NEWARK SCHOOL DISTRICT CAREER EDUCATION PROJECT

PROGRAM GOALS -- AWARENESS PHASE (K-5)

1. --to develop in pupils positive attitudes about the personal and social significance of work;
2. --to develop each pupil's self awareness;
3. --to develop and expand the occupational awareness and occupational aspirations of the pupils';
4. --to improve overall pupil performance by unifying and focusing basic subjects around a career development theme.

ELEMENTARY SCHOOL AWARENESS		BROOKSIDE ELEMENTARY SCHOOL										PROJECT GOALS	OUTCOME STATEMENTS
		PARTICIPANTS											
TIME	UNITS	K-5	K-5	K-5	K-5	K-5	K-5	K-5	K-5	K-5			
	1. Environmental Controls	X	X	X	X	X	X	X	X	X		1, 2, 3, 4	I* III II IV* V* VI
	2. Hospitality and Recreational Services	X	X	X	X	X	X	X	X	X		3, 4	III IV* V* II VI
	3. Global Communication and Transportation	X	X	X	X	X	X	X	X	X		3, 4, 2, 1, 5, 6	I* II III IV* V* VII VI
	4. Marine Occupations	X	X	X	X	X	X	X	X	X		1, 3	III IV* V* VI
	5. Nutrition	X	X	X	X	X	X	X	X	X		3, 1, 4	III IV* V* II VI

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ELEMENTARY SCHOOL ADDRESS		CORBES ELEMENTARY SCHOOL										PROJECT GOALS	OUTCOME STATEMENTS		
		PARTICIPANTS													
		1-5	3	3-5	1-2	4-5	4-5	POWELL	MOODY	LECK	HANDLING			HANDLING	HANDLING
TIME	UNITS														
37	1. Jobs Our Parents Do													1,3,4	III IV* V* II VI
	2. Me													2	I* VI
	3. Camping		X											2,3,4	I* III IV* V* II
	4. Rope Jumping													4,1	II III
	5. Parachute Play		X											4	II
38	6. Exploration of Body Movements		X											2,4	I* II
	7. Physical Fitness		X											3,4	II III IV* V*
	8. First Aid													3,4	II III IV* V*
	9. Team Sports		X											3,4	II III IV* V*
	10. Development of Natural Resources													4	II IV
	11. People Manage Their Resources													1,3,4	II III IV* V* VI
	12. Setting Up a Business													4,5	I* II III IV* V* VI

		ELEMENTARY SCHOOL AWARENESS		LEASURE ELEMENTARY SCHOOL							PROJECT GOALS		STUDENT OUTCOMES	
				PARTICIPANTS										
TIME	UNITS	MILLER	THAXTON	PERRY	DAVIDSON	TURULSKI	BUSSARD							
	1. Self Awareness	X										1,2,4	I* II III VI	
	2. Helpers in School	X										3	III IV* V VI	
	3. Foods From Farm to Table	X										4,5	II I* III IV* V* VI	
	4. Self Awareness		X									2	I*	
	5. Our Parents as Community Helpers		X									1,3	III IV* V*	
	6. Let's Go to the Zoo		X									1,3,4	II III IV* V*	
	7. How We Get There -- Transportation			X								3,4	II III IV* V* VI VII	
	8. Places to Stay and Eat			X								4	II VI VII	
	9. Getting Ready to Take a Trip			X								3,4,5	I* II III IV* V* VI VII	
	10. Electricity and Magnets				X							3,4	II III IV* V*	
	11. Water				X							3,4	II III IV* V*	
	12. Photography				X							1,3,4	II III IV* V*	

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ELEMENTARY SCHOOL AWARENESS		LEASURE ELEMENTARY SCHOOL (continued)										PROJECT GOALS	STUDENT OUTCOMES
		PARTICIPANTS											
TIME	UNITS	K	1	2	3	4	5						
	13. Introduction to Nutrition					X						1,2,3,4	I* II III IV* V* VI
	14. Mountain Regions of U.S.					X						3,4	II III IV* V* VI
	15. Desert Regions of U.S.					X						3,4	II III IV* V* VI
	16. Interdisciplinary Approach to Mass Production						X					3,4,5	I* II III IV* V* VI VII
	17. Fine Arts -- Art, Music, Theater						X					3,4,5	I* II III IV* V* VI VII

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ELEMENTARY SCHOOL AWARENESS		MACLARY ELEMENTARY SCHOOL							PROJECT GOALS	STUDENT OUTCOMES					
		PARTICIPANTS					DOWNS	PRICE			MILES	SCHREFFY	MORTON	LEONARD	
		UNITS	K - 1	2-3	4 - 5	4-5									
TIME															
	1. Learning About Me		X	X										2	I*
	2. People in the Family		X	X										4	II
	3. People Who Work in the School		X	X										1,3	III IV* V*
	4. People Who Work in the Community		X	X										3	III IV* V*
	5. Foods				X									3,4	II III IV* V*
	6. Clothing			X										3,4	II III IV* V*
	7. Shelter			X										3,4	II III IV* V*
	8. Communication					X								3,4	II III IV* V* VI
	9. Transportation					X								3,4	II III IV* V* VI
	10. Conflict					X								1,2,4	I* II III V VI
	11. Growth of Industry					X								3,4	II III IV* V* VI
	12. Man's Interdependence					X								1,2,4	I* II III V VI

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ELEMENTARY SCHOOL SCENARIOS		MACLARY ELEMENTARY SCHOOL (continued)										PRODUCT GOALS	STUDENT OUTCOMES	
		PARTICIPANTS												
		LEONARD	MORTON	SCHREFFER	MILES	PRICE	DOWNES							
TIME	UNITS	K - 1	2-3	4 - 5	4 - 5	4 - 5	4 - 5							
	13. Money, Management, and Consumerism			X	X							1,2,3,4	I* II III IV* V* VI	
	14. Communication						X					4	II	
	15. Visual Arts						X					2,4	I* II	
	16. Conservation						X					3,4	II III IV* V*	
	17. Government Social Services						X					3,4	II III IV* V*	
	18. Construction						X					3,4	II III IV* V*	
	19. Animal and Pet Care						X					3,4	II III IV* V*	
	20. Entertainment						X					3,4,5	I* II III IV* V*	
	21. Recreation and Sports						X					3,4	II III IV* V*	
	22. Health and Safety						X					2,3,4	I* II III IV* V*	

McVEY ELEMENTARY SCHOOL												
ELEMENTARY SCHOOL AWARENESS		PARTICIPANTS							PROJECT GOALS			STUDENT OUTCOMES
		HART	MORRIS	CLARK	HYLENSKI	JENKINS	WHANN					
TIME		K	1	2	4	5	K-5					
	1. All About Me	X									2	I*
	2. My Family	X									1,2	I* III
	3. World Around Me	X									1,3	III IV* V*
	4. I Need My Family		X								1,2,3,4	I* II III IV* V*
	5. I Need My School		X								1,2,3	I* III IV* V*
	6. I Need My Neighborhood		X								1,2,3,4	I* II III IV* V*
	7. How People Help in the Community			X							1,2,3	I* III IV* V*
	8. The Areas Around Me			X							3,4	II III IV* V*
	9. A Military Community			X							2,3,4	I* II III IV* V*
	10. Careers in Delaware				X						1,3	III IV* V*
	11. Clothing Industry				X						3,4	II III IV* V*
	12. Careers in Other Regions of the U.S.				X						3,4	II III IV* V*

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TG / OA TABLES

McVEY ELEMENTARY SCHOOL (continued)										
TIME	ELEMENTARY SCHOOL AWARENESS	PARTICIPANTS						PROJECT GOALS	STUDENT OUTCOMES	
		HART	MORRIS	CLARK	HYLENSKI	JENKINS	WHANN			
		K	1	2	4	5	K-5			
	13. From Cave to City					X		1,3,4	II IV*	III V*
	14. Our Inheritance From the Past					X		3,4	II IV*	III V*
	15. Man and Ideas					X		1,3,4	II IV*	III V*
	16. Man Forms Nations and Looks to the West					X		3,4	II IV*	III V*
	17. All About Me						X	2,4	I*	II
	18. All About My Family						X	2,4	I*	II
	19. The World Around Me						X	2,4	I*	II
	20. I Need My Family						X	2,4	I*	II
	21. I Need My School						X	2,4	I*	II
	22. I Need My Neighborhood						X	2,4	I*	II
	23. Activity Scroll						X	2,4	I*	II
	24. How People Help in the Community						X	3,4	II IV*	III V*
	25. The Areas Around Me						X	3,4	II IV*	III V*

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McVEY ELEMENTARY SCHOOL (continued)										
TIME	ELEMENTARY SCHOOL AWARENESS	PARTICIPANTS						PROJECT GOALS	STUDENT OUTCOMES	
		HART	MORRIS	CLARK	HYLINSKI	JENKINS	WHANN			
		K	1	2	4	5	K-5			
	26. Careers in Delaware						X		3,4	II IV* III V*
	27. Print Making and Fabric Design						X		3,4	II IV* III V*
	28. Careers in Other Regions of the U.S.						X		3	III IV* V*
	29. Art from Past to Present						X		4	II
	30. Career Awareness Time Line						X		2,3	I* IV* III V*

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NEWARK SCHOOL DISTRICT CAREER EDUCATION PROJECT

PROGRAM GOALS -- EXPLORATION PHASE (6 - 8)

5. --to provide experiences for students to assist them in evaluating their interests, abilities, values and needs as they relate to occupational roles;
6. --to provide students with opportunities for further and more detailed exploration of selected occupational clusters, leading to the tentative selection of a particular cluster for indepth exploration;
7. --to improve the performance of students in basic subject areas by making the subject matter more meaningful and relevant through unifying and focusing it around a career development theme.

TG / OA TABLES

CENTRAL MIDDLE SCHOOL											
TIME	UNITS	PARTICIPANTS						DEFOREST	OWENS	PROJECT GOALS	STUDENT OUTCOMES
		MORRILL	REED	RUDISELL	8	8	8				
	1. Career Exploration for the Unsuccessful Student	X								2, 5, 6, 7	I* II III IV* V* VII VI VII
	2. World of Plants		X							3, 6	III IV* V* VI VII IX
	3. Photography			X						5, 6, 7	I* II III IV* V* VII
	4. Means for Satisfying Human Wants				X					7	II VI
	5. Kinds of Work People Do				X					3, 7	II III IV* V* VI
	6. Getting What We Need				X					1, 7	III II VI
	7. Using Government to Solve Worker's Problems				X					5, 7	I* II III IV* V* VI
	8. How Banks Serve You							X		3, 7	II III IV* V* VI VII IX
	9. Biology		X							6, 7,	II IV* V* VII

TG / OA TABLES

GAUGER MIDDLE SCHOOL														
MIDDLE SCHOOL EXPLORATION		PARTICIPANTS						PROJECT GOALS						STUDENT OUTCOMES
		SARDANA	COOK	HOLMES	MCCAFFERTY	SCOGNA	WALLER	WALLER						
TIME	UNITS	6-8	7-8	7-8	7-8	7-8	7-8	7-8	7-8					
	1. Food Service and Car Service	X										2,5,6,7	I* II III IV* V* VII	
	2. <u>Every Day Math</u> : Experimenta- tion	X										5,6,7	I* II III IV* V* VII	
	3. Importance to Life	X										5,7	I* II III IV* V* VII	
	4. Spending Money	X										6,7	II IV* V* VII	
	5. Basic Skills								X			7	II	
	6. Values							X	X			1,2,3,6,7	I* II III IV* V* VII	
	7. You as Consumer and Producer							X				2,3,7	I* II III IV* V*	
	8. Language Arts										X	5,7	I* II III IV* V*	
	9. Happy Homemaker										X	2,3,5,7	I* II III IV* V*	
	10. Heredity and Environment											2,3,7	I* II III IV* V*	
	11. Weather											3,5,7	I* II III IV* V*	
	12. Plants											7	II	
	13. Self-Awareness											2	I* VI	
	14. Lettering											7	II VI	

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TG / OA TABLES

GAUGER MIDDLE SCHOOL (cont.)											
TIME	MIDDLE SCHOOL EXPLORATION	PARTICIPANTS	UNITS	PARTICIPANTS						PROJECT GOALS	STUDENT OUTCOMES
				SARDANA	COOK	HOLMES	MCCAFFREY	SCOGNA	WALTER		
				6-8	7-8	7-8	7-8	7-8	7-8		
	15. Printing							X		7	II VI
	16. Color							X		7	II VI
	17. Fabric Design							X		3,6,7	II III IV* V* VI VII
	18. Fashion Design							X		3,5,6	I* III IV* V* VI VII

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MIDDLE SCHOOL EXPLORATION		OCLATON KIMBLE SCHOOL																						
TIME	UNIT 8	PARTICIPANTS	MAJESTY	ROBIN	CLAYMAN	CHUBBIE	EVANS	FLINE	PTERBOLD	NICKY	KIMBIE	PAVEL	KEITH	SPRING	STANLEY	STIGLE	STREIN	TABO	MILL	TURNER	WOMER	WOC	PROJECT	STUDENT
												</												

TG / OA TABLES

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MIDDLE SCHOOL EXPLORATION		OCCUPATIONS: ARTS & DESIGN																PROJECT GOALS		STUDENT OCCURRENCES	
TIME	unirs	MALE	FEMALE	ALL GRADES 6, 7, AND 8	ROBERTSON	WICK	KNIGHT	WILSON	STANLEY	STANLEY	STANLEY	STANLEY	STANLEY	STANLEY	STANLEY	STANLEY	STANLEY	STANLEY	STANLEY	STANLEY	STANLEY
28. Signing																		2,3,7		10 III 190 90 VI 3	
29. Technician of Basketball officiating																		5,7		10 III 190 90	
30. Automobile Mechanic																		3,7		11 III 190 90	
31. Statistician in Sports																		3,7		11 III 190 90	
32. They Sell Music																		5,6		10 III 190 90 VII	
33. U.S. History and Government																		3,7		11 III 190 90	
34. Ways with Plants																		3,7		11 III 190 90	
35. Who Am I and What Can I Do About It																		2,7		10 II	
36. Wildlife Conservation																		3,5,7		10 III 190 90	
37. Writing-for-Profit																		3,7		11 III 190 90	

Appendix C

Outcome Question / Treatment Group Matrix

OUTCOME QUESTION/TREATMENT GROUP MATRIX

COBBS ELEMENTARY SCHOOL

BROOKSIDE ELEMENTARY SCHOOL

Treatment Group	COX	MOORE	RICKERMAN	SHAY	WEAVER	O'NEILL	O'NEILL	O'NEILL	LECK	MOODY	POWELL
Outcome Questions	K-5	K-5	K-5	K-5	K-5	1-5	3	3-5	1-2	4-5	4-5
I. Increased Self-awareness											
A. Have students increased their ability to describe their own current abilities and limitations?	X	X	X	X	X				X		
B. Have students increased their ability to describe their own current interest and values?	X	X	X	X					X		
C. Do students display more positive attitudes toward themselves?			X	X	X				X		
D. Have students increased their recognition that social, economic, educational and cultural forces influence their development?	X	X	X		X						X
II. Increased Basic Academic/Vocational Skills											
A. Have students increased their level of generally useful numerical skills?					X				X	X	X

OUTCOME QUESTION/TREATMENT GROUP MATRIX

		BROOKSIDE ELEMENTARY SCHOOL						COBBS ELEMENTARY SCHOOL					
Treatment Group	Outcome Questions	COX	MOORE	RICKERMAN	SHAY	WEAVER		O'NEILL	O'NEILL	O'NEILL	LECK	MOODY	POWELL
		K-5	K-5	K-5	K-5	K-5		1-5	1	3-5	1-2	4-5	4-5
B. Have students increased their level of generally useful communication skills?		X			X	X					X	X	X
		X	X	X		X						X	X
C. Have students increased their level of generally useful information processing skills?		X	X	X		X						X	X
D. Have students increased their level of generally useful decision-making skills?		X		X	X						X		
E. Have students increased their level of generally useful interpersonal skills?											X	X	
III. Increased Awareness of Work Values A. Have students increased their recognition of the bases of various work values?		X	X	X	X	X					X	X	X

OUTCOME QUESTION/TREATMENT GROUP MATRIX

BROOKSIDE ELEMENTARY SCHOOL

COBBS ELEMENTARY SCHOOL

Treatment Group	COX	MOORE	RICKERMAN	SHAY	WEAVER	O'NEILL	O'NEILL	O'NEILL	LECK	MOODY	POWELL
Outcome Questions	K-5	K-5	K-5	K-5	K-5	1-5	3	3-5	1-2	4-5	4-5
Increased Desire to Engage in Paid and/or Unpaid Work B. Do students possess more positive attitudes toward paid and unpaid work?	X	X	X	X					X		
IV. Increased Awareness and Knowledge about Work A. Have students increased their knowledge regarding the major duties and required abilities of different types of paid and unpaid work?	X	X	X	X	X				X		
B. Have students increased their knowledge of differences in work conditions and life styles associated with different types of paid and unpaid work?	X	X							X		
C. Have students increased their knowledge of entry requirements for major types of paid and unpaid work?	X										

OUTCOME QUESTION/TREATMENT GROUP MATRIX

BROOKSIDE ELEMENTARY SCHOOL

COBBS ELEMENTARY SCHOOL

Treatment Group	COX	MOORE	RICKERMAN	SHAY	WEAVER	O'NEILL	O'NEILL	O'NEILL	LECK	MOODY	POWELL
Outcome Questions	K-5	K-5	K-5	K-5	K-5	1-5	3	3-5	1-2	4-5	4-5
D. Have students increased their knowledge of the impact of social and technological change in paid and unpaid work?											X
E. Have students increased their knowledge of the important factors that affect work success and satisfaction?	X	X	X	X	X					X	
V. Increased Career Decision-Making Skills A. Have students increased their ability to associate their own abilities and limitations with possible success in present or future paid or unpaid work?									X		
B. Have students increased their ability to relate their personal interests and values to types of paid and unpaid work and their associated life-styles?	X	X									

OUTCOME QUESTION/TREATMENT GROUP MATRIX

		BROOKSIDE ELEMENTARY SCHOOL					COBBS ELEMENTARY SCHOOL				
Treatment Group	Outcome Questions	COX	K-5	MOORE	RICKERMAN	SHAY	WEAVER		O'NEILL	O'NEILL	POWELL
		X	X	X	X	X	X		1-5	3-5	1-2
C. Have students increased their ability to (a) identify, (b) locate, and (c) utilize sources of information to solve career decision-making problems?											
D. Have students increased their ability to determine the potential for future advancement/personal growth in work of their choosing?											
E. Have students increased their knowledge of the steps to be taken and the factors to be considered in career planning?											
F. Have students increased their active involvement in career decision-making?											

OUTCOME QUESTION/TREATMENT GROUP MATRIX

BROOKSIDE ELEMENTARY SCHOOL										COBBS ELEMENTARY SCHOOL			
Treatment Group	COX	MOORE	RICKERMAN	SHAY	WEAVER		O'NEILL	O'NEILL	O'NEILL	LECK	MOODY	POWELL	
Outcome Questions	K-5	K-5	K-5	K-5	K-5		1-5	3	3-5	1-2	4-5	4-5	
VI. Improved Work Habits													
A. Are students able to plan work effectively?			X										
B. Are students more adaptable to varied work situations?										X			
C. Do students have a more positive attitude towards the concepts of quality in relation to a work task?										X		X	
D. Do students have a more positive attitude towards conservation of environmental and human resources in accomplishing work tasks?		X										X	
E. Do students have a more positive attitude towards responsibility for their own behavior and accomplishment of self-imposed work tasks?	X			X						X	X	X	

OUTCOME QUESTION/TREATMENT GROUP MATRIX

		BROOKSIDE ELEMENTARY SCHOOL						COBBS ELEMENTARY SCHOOL					
Treatment Group		COX	MOORE	RICKERMAN	SHAY	WEAVER		O'NEILL	O'NEILL	O'NEILL	LECK	MOODY	POWELL
Outcome Questions		K-5	K-5	K-5	K-5	K-5		1-5	3	3-5	1-2	4-5	4-5
F. Do students demonstrate an increased desire for continuous learning both in school and out?											X		
VII. Increased Work Seeking and Work Getting Skills													
A. Have students increased their ability to (a) identify, (b) locate, and (c) utilize sources that contain information about paid and unpaid work?		X	X	X	X	X							
B. Have students increased their skills required in (a) applying for, and (b) accepting work?													
VIII. Placement													
A. How many students have been placed or are engaged in further education and how does this compare with prior years?													

OUTCOME QUESTION/TREATMENT GROUP MATRIX

LEASURE ELEMENTARY SCHOOL MACLARY ELEMENTARY SCHOOL

Treatment Group	MILLER	SMITH	PERRY	DAVIDSON	TURULSKI	BUSSARD	LEONARD	MORTON	SCHEFFEY	WILSON	PRICE	DOWNS
Outcome Questions	K	1	2	3	4	5	K	1	2-3	4-5	4-5	4-5
I. Increased Self-awareness												
A. Have students increased their ability to describe their own current abilities and limitations?	X		X	X	X	X	X	X				
B. Have students increased their ability to describe their own current interest and values?	X		X	X	X	X	X	X				
C. Do students display more positive attitudes toward themselves?	X		X		X			X				
D. Have students increased their recognition that social, economic, educational and cultural forces influence their development?	X		X		X	X						
II. Increased Basic Academic/Vocational Skills												
A. Have students increased their level of generally useful numerical skills?			X	X	X							

OUTCOME QUESTION/TREATMENT GROUP MATRIX

LEASURE ELEMENTARY SCHOOL

MCLARY ELEMENTARY SCHOOL

Treatment Group	MILLER	SMITH	PERRY	DAVIDSON	TURULSKI	BUSSARD	LEONARD	MORTON	SCHEFFEY	WILSON	PRICE	DOWNS
Outcome Questions	K	1	2	3	4	5	K-1	K-1	2-3	4-5	4-5	4-5
B. Have students increased their level of generally useful communication skills?	X		X	X	X	X	X	X	X		X	
C. Have students increased their level of generally useful information processing skills?	X		X	X	X	X			X			
D. Have students increased their level of generally useful decision-making skills?	X		X	X	X		X	X	X		X	
E. Have students increased their level of generally useful interpersonal skills?	X		X		X	X					X	
III. Increased Awareness of Work Values												
A. Have students increased their recognition of the bases of various work values?	X		X	X	X	X	X	X	X		X	

OUTCOME QUESTION/TREATMENT GROUP MATRIX

LEASURE ELEMENTARY SCHOOL MCLARY ELEMENTARY SCHOOL

Treatment Group	MILLER	SMITH	PERRY	DAVIDSON	TURULSKI	BUSSARD	LEONARD	MORTON	SCHEFFEY	MILES	PRICE	DOWNS
Outcome Questions	K	1	2	3	4	5	K-1	K-1	2-3	4-5	4-5	4-5
Increased Desire to Engage in Paid and/or Unpaid Work B. Do students possess more positive attitudes toward paid and unpaid work?	X		X	X	X	X			X		X	
IV. Increased Awareness and Knowledge about Work A. Have students increased their knowledge regarding the major duties and required abilities of different types of paid and unpaid work?	X		X	X	X	X	X	X	X		X	
B. Have students increased their knowledge of differences in work conditions and life styles associated with different types of paid and unpaid work?	X		X	X	X	X			X		X	
C. Have students increased their knowledge of entry requirements for major types of paid and unpaid work?	X		X	X	X	X					X	

OUTCOME QUESTION/TREATMENT GROUP MATRIX

LEASURE ELEMENTARY SCHOOL

MCCLARY ELEMENTARY SCHOOL

Treatment Group	MILLER	SMITY	PERRY	DAVIDSON	TURULSKI	BUSSARD	LEONARD	MORTON	SCHEFFEY	MILES	PRICE	DOWNES
Outcome Questions	1	2	3	4	5	K-1	K-1	K-1	2-3	4-5	4-5	4-5
D. Have students increased their knowledge of the impact of social and technological change in paid and unpaid work?	X	X	X	X	X	X			X		X	
E. Have students increased their knowledge of the important factors that affect work success and satisfaction?	X	X		X	X	X			X		X	
V. Increased Career Decision-Making Skills A. Have students increased their ability to associate their own abilities and limitations with possible success in present or future paid or unpaid work?	X		X	X	X	X			X			
B. Have students increased their ability to relate their personal interests and values to types of paid and unpaid work and their associated life-styles?	X	X	X	X	X	X			X		X	

OUTCOME QUESTION/TREATMENT GROUP MATRIX

LEASURE ELEMENTARY SCHOOL

MCLARY

ELEMENTARY SCHOOL

Treatment Group	MILLER	SMITY	PERRY	DAVIDSON	TURULSKI	BUSSARD	LEONARD	MORTON	SCHIEFFEY	MILES	PRICE	DOWNS
Outcome Questions	K	1	2	3	4	5	K-1	K-1	2-3	4-5	4-5	4-5
C. Have students increased their ability to (a) identify, (b) locate, and (c) utilize sources of information to solve career decision-making problems?	X		X		X	X			X			
D. Have students increased their ability to determine the potential for future advancement/personal growth in work of their choosing?	X		X		X	X						
E. Have students increased their knowledge of the steps to be taken and the factors to be considered in career planning?	X		X		X	X					X	
F. Have students increased their active involvement in career decision-making?	X		X		X	X						

OUTCOME QUESTION/TREATMENT GROUP MATRIX

LEASURE ELEMENTARY SCHOOL

MCLARY ELEMENTARY SCHOOL

Treatment Group	MILLER	SMITH	PERRY	DAVIDSON	TURULSKI	BUSSARD	LEONARD	MORTON	SCHEFFEY	MILES	PRICE	DOWNES
Outcome Questions	K	1	2	3	4	5	K-1	K-1	2-3	4-5	4-5	4-5
VI. Improved Work Habits												
A. Are students able to plan work effectively?	X		X		X	X					X	
B. Are students more adaptable to varied work situations?	X		X		X	X					X	
C. Do students have a more positive attitude towards the concepts of quality in relation to a work task?	X		X		X	X					X	
D. Do students have a more positive attitude towards conservation of environmental and human resources in accomplishing work tasks?			X	X	X	X					X	
E. Do students have a more positive attitude towards responsibility for their own behavior and accomplishment of self-imposed work tasks?	X		X		X	X					X	

OUTCOME QUESTION/TREATMENT GROUP MATRIX

LEASURE ELEMENTARY SCHOOL

MCLARY ELEMENTARY SCHOOL

Treatment Group	MILLER	SMITH	PERRY	DAVIDSON	TURULSKI	BUSSARD	LEONARD	MORTON	SCHEFFEY	MILES	PRICE	DOWNS
Outcome Questions	K	1	2	3	4	5	K-1	K-1	2-3	4-5	4-5	4-5
F. Do students demonstrate an increased desire for continuous learning both in school and out?	X		X		X	X						
VII. Increased Work Seeking and Work Getting Skills A. Have students increased their ability to (a) identify, (b) locate, and (c) utilize sources that contain information about paid and unpaid work?	X		X			X						
B. Have students increased their skills required in (a) applying for, and (b) accepting work?	X					X						
VIII. Placement A. How many students have been placed or are engaged in further education and how does this compare with prior years?												

OUTCOME QUESTION/TREATMENT GROUP MATRIX

MCVEY ELEMENTARY SCHOOL

WILSON ELEMENTARY SCHOOL

Treatment Group	HART	MORRIS	CLARK	HYLENSKI	JENKINS	WHENN	WHAYLAND	BENSINGER					
Outcome Questions	K	1	2	4	5	K-5	3	5					
I. Increased Self-awareness													
A. Have students increased their ability to describe their own current abilities and limitations?	X	X	X	X	X								
B. Have students increased their ability to describe their own current interest and values?	X	X	X		X								
C. Do students display more positive attitudes toward themselves?	X	X	X		X								
D. Have students increased their recognition that social, economic, educational and cultural forces influence their development?	X	X	X		X								
II. Increased Basic Academic/Vocational Skills													
A. Have students increased their level of generally useful numerical skills?		X	X	X	X								

OUTCOME QUESTION/TREATMENT GROUP MATRIX

MCVEY ELEMENTARY SCHOOL WILSON ELEMENTARY SCHOOL

Treatment Group	HART	MORRIS	CLARK	HYLENSKI	JENKINS	WHENN	WHAYLAND	BENSINGER					
Outcome Questions	K	1	2	4	5	K-5	3	5					
B. Have students increased their level of generally useful communication skills?		X	X	X	X								
C. Have students increased their level of generally useful information processing skills?		X	X	X	X								
D. Have students increased their level of generally useful decision-making skills?		X	X	X	X								
E. Have students increased their level of generally useful interpersonal skills?		X	X	X	X								
III. Increased Awareness of Work Values													
A. Have students increased their recognition of the bases of various work values?	X	X	X	X	X								

OUTCOME QUESTION/TREATMENT GROUP MATRIX

MCVEY ELEMENTARY SCHOOL WILSON ELEMENTARY SCHOOL

Treatment Group	HART	MORRIS	CLARK	HYLENSKI	JENKINS	WHENN	WHAYLAND	BENSINGER				
Outcome Questions												
Increased Desire to Engage in Paid and/or Unpaid Work B. Do students possess more positive attitudes toward paid and unpaid work?	X	X	X	X	X	K-5	3	5				
IV. Increased Awareness and Knowledge about Work A. Have students increased their knowledge regarding the major duties and required abilities of different types of paid and unpaid work?	X	X	X		X							
B. Have students increased their knowledge of differences in work conditions and life styles associated with different types of paid and unpaid work?	X		X		X							
C. Have students increased their knowledge of entry requirements for major types of paid and unpaid work?			X	X	X							

OUTCOME QUESTION/TREATMENT GROUP MATRIX

MCVEY ELEMENTARY SCHOOL

WILSON ELEMENTARY SCHOOL

Treatment Group	HART	MORRIS	CLARK	HYLENSKI	JENKINS	WHENN	WHAYLAND	BENSINGER				
Outcome Questions	K	1	2	4	5	K-5	3	5				
D. Have students increased their knowledge of the impact of social and technological change in paid and unpaid work?			X	X	X							
E. Have students increased their knowledge of the important factors that affect work success and satisfaction?		X	X		X							
V. Increased Career Decision-Making Skills A. Have students increased their ability to associate their own abilities and limitations with possible success in present or future paid or unpaid work?			X	X	X							
B. Have students increased their ability to relate their personal interests and values to types of paid and unpaid work and their associated life-styles?		X	X									

OUTCOME QUESTION/TREATMENT GROUP MATRIX

		MCVEY ELEMENTARY SCHOOL						WILSON ELEMENTARY SCHOOL					
Treatment Group	Outcome Questions	HART	MORRIS	CLARK	HYLENSKI	JENKINS	WHENN		WHAYLAND	BENSINGER			
		K	1	2	4	5	K-5		3	5			
	C. Have students increased their ability to (a) identify, (b) locate, and (c) utilize sources of information to solve career decision-making problems?	X				X							
	D. Have students increased their ability to determine the potential for future advancement/personal growth in work of their choosing?		X	X									
	E. Have students increased their knowledge of the steps to be taken and the factors to be considered in career planning?		X	X		X							
	F. Have students increased their active involvement in career decision-making?		X	X		X							

CENTRAL MIDDLE SCHOOL

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OUTCOME QUESTION/TREATMENT GROUP MATRIX

CENTRAL MIDDLE SCHOOL GAUGER MIDDLE SCHOOL

Treatment Group	CENTRAL MIDDLE SCHOOL												GAUGER MIDDLE SCHOOL											
	Outcome Questions												Outcome Questions											
B. Have students increased their level of generally useful communication skills?	7	7	7	8	8	6-8	7-8	7-8	7-8	7-8	7-8	7-8	7-8	7-8	7-8	7-8	7-8							
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
C. Have students increased their level of generally useful information processing skills?	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
D. Have students increased their level of generally useful decision-making skills?	X	X	X		X		X	X	X	X	X	X	X	X	X	X	X							
E. Have students increased their level of generally useful interpersonal skills?	X		X			X		X	X	X	X	X	X	X	X	X	X							
III. Increased Awareness of Work Values A. Have students increased their recognition of the bases of various work values?	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							

OUTCOME QUESTION/TREATMENT GROUP MATRIX

Treatment Group	GAUGER MIDDLE SCHOOL									
	CENTRAL MIDDLE SCHOOL									
Outcome Questions	DEFORREST	MORRILL	OWENS	REED	RUDISELL	SARDANA	COOK	HOLMES	MCCAFFREY	SCOGNA
Increased Desire to Engage in Paid and/or Unpaid Work B. Do students possess more positive attitudes toward paid and unpaid work?	7	7	7	8	8	6-8	7-8	7-8	7-8	7-8
		X				X				X
IV. Increased Awareness and Knowledge about Work A. Have students increased their knowledge regarding the major duties and required abilities of different types of paid and unpaid work?		X	X	X	X	X		X		X
B. Have students increased their knowledge of differences in work conditions and life styles associated with different types of paid and unpaid work?	X	X	X			X				X
C. Have students increased their knowledge of entry requirements for major types of paid and unpaid work?		X		X	X	X				

OUTCOME QUESTION/TREATMENT GROUP MATRIX

CENTRAL MIDDLE SCHOOL

GAUGER MIDDLE SCHOOL

Treatment Group	Outcome Questions	CENTRAL MIDDLE SCHOOL						GAUGER MIDDLE SCHOOL					
		DEFORREST	MORRILL	OWENS	REED	RUDISELL	SARDANA	COOK	HOLMES	MCCAFFREY	SCOGNA	WALLER	WALLER
		7	7	7	8	8	6-8	7-8	7-8	7-8	7-8	7-8	7-8
		X				X						X	X
D. Have students increased their knowledge of the impact of social and technological change in paid and unpaid work?													
E. Have students increased their knowledge of the important factors that affect work success and satisfaction?			X		X	X		X	X		X	X	X
V. Increased Career Decision-Making Skills													
A. Have students increased their ability to associate their own abilities and limitations with possible success in present or future paid or unpaid work?		X	X										
B. Have students increased their ability to relate their personal interests and values to types of paid and unpaid work and their associated life-styles?		X	X		X	X		X				X	X

OUTCOME QUESTION/TREATMENT GROUP MATRIX

		CENTRAL MIDDLE SCHOOL					GAUGER MIDDLE SCHOOL						
Treatment Group	Outcome Questions	DEFORREST	MORRILL	OWENS	REED	RUDISELL	SARDANA	COOK	HOLMES	MCCAFFREY	SOXGNA	WALLER	WALLER
		7	7	7	8	8	6-8	7-8	7-8	7-8	7-8	7-8	7-8
	C. Have students increased their ability to(a) identify, (b)locate, and(c)utilize sources of information to solve career decision-making problems?			X	X	X			X			X	X
	D. Have students increased their ability to determine the potential for future advancement/personal growth in work of their choosing?	X	X	X	X								
	E. Have students increased their knowledge of the steps to be taken and the factors to be considered in career planning?	X	X	X			X		X		X	X	X
	F. Have students increased their active involvement in career decision-making?		X	X							Y		

OUTCOME QUESTION/TREATMENT GROUP MATRIX

Treatment Group Outcome Questions		CENTRAL MIDDLE SCHOOL						GAUGER MIDDLE SCHOOL					
		DEFORREST	MORRILL	OWENS	REED	RUBISELL	SARDANA	COOK	HOLMES	MCCAFFREY	SCOGNA	WALLER	WALLER
VI. Improved Work Habits		7	7	7	8	8	6-8	7-8	7-8	7-8	7-8	7-8	7-8
A. Are students able to plan work effectively?				X	X	X				X			
B. Are students more adaptable to varied work situations?				X						X			
C. Do students have a more positive attitude towards the concepts of quality in relation to a work task?		X		X		X				X			
D. Do students have a more positive attitude towards conservation of environmental and human resources in accomplishing work tasks?		X			X								
E. Do students have a more positive attitude towards responsibility for their own behavior and accomplishment of self-imposed work tasks?		X		X									

OUTCOME QUESTION/TREATMENT GROUP MATRIX

CENTRAL MIDDLE SCHOOL GAUGER MIDDLE SCHOOL

Treatment Group	DEFORREST	MORRILL	OWENS	REED	RUDISELL	SARDANA	COOK	HOLMES	MCCAFFREY	SCOGNA	WALLER	WALLER
Outcome Questions	7	7	7	8	8	6-8	7-8	7-8	7-8	7-8	7-8	7-8
F. Do students demonstrate an increased desire for continuous learning both in school and out?	X	X	X		X							
VII. Increased Work Seeking and Work Getting Skills												
A. Have students increased their ability to (a) identify, (b) locate, and (c) utilize sources that contain information about paid and unpaid work?				X	X	X						
B. Have students increased their skills required in (a) applying for, and (b) accepting work?		X	X			X						
VIII. Placement												
A. How many students have been placed or are engaged in further education and how does this compare with prior years?												

OUTCOME QUESTION/TREATMENT GROUP MATRIX

Treatment Group Outcome Questions	CENTRAL MIDDLE SCHOOL						GAUGER MIDDLE SCHOOL					
	DEFORREST	MORRILL	OWENS	REED	RUDISELL	SARDANA	COOK	HOLMES	MCCAFFREY	SCOGNA	WALLER	WALLER
B. How many students have been placed in a paid occupation, and how does this compare with prior years?	7	7	7	8	8	6-8	7-8	7-8	7-8	7-8	7-8	7-8
C. Of those placed in (a) further education, and (b) employment, how many consider the placement to be consistent with their career plans?												
D. Of those not placed in further education or in a paid occupation, how many are engaged in (a) unpaid work consistent with their career plans, and how does this compare with prior years?												
IX. Increased Awareness of Means for Continued Education A. Have students increased their ability to identify sources of additional education in major types of paid and unpaid work?			X	X								

GAUGER MIDDLE SCHOOL

CENTRAL MIDDLE SCHOOL

OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group	BRADLEY	BOWEN	CHAPMAN	CHELUCCI	EVANS	HICKEY	PFUHL	REISTER	SPINGLER	STATLER	STREIN	TABO
Outcome Questions	6-8	6-8	6-8	6-8	5-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8
I. Increased Self-awareness												
A. Have students increased their ability to describe their own current abilities and limitations?	X	X	X				X				X	X
B. Have students increased their ability to describe their own current interest and values?	X	X	X			X	X				X	X
C. Do students display more positive attitudes toward themselves?	X	X					X					X
D. Have students increased their recognition that social, economic, educational and cultural forces influence their development?	X	X	X			X	X				X	X
II. Increased Basic Academic/Vocational Skills												
A. Have students increased their level of generally useful numerical skills?												

OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group Outcome Questions										
	WALLS	YULDUZIAN	SCHNECK							
I. Increased Self-awareness	6-8	6-8	6-8							
A. Have students increased their ability to describe their own current abilities and limitations?		X	X							
B. Have students increased their ability to describe their own current interest and values?		X								
C. Do students display more positive attitudes toward themselves?		X	X							
D. Have students increased their recognition that social, economic, educational and cultural forces influence their development?		X	X							
II. Increased Basic Academic/Vocational Skills										
A. Have students increased their level of generally useful numerical skills?			X							

OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETON MIDDLE SCHOOL

Treatment Group	BRADLEY	BOWEN	CHAPMAN	CHELUCCI	EVANS	HICKEY	PFUHL	REISTER	SPINGLER	STATLER	STREIN	TABO
Outcome Questions	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-3	6-8	6-8	6-8	6-8
B. Have students increased their level of generally useful communication skills?	X	X	X	X		X		X	X		X	X
C. Have students increased their level of generally useful information processing skills?	X	X	X	X		X					X	X
D. Have students increased their level of generally useful decision-making skills?	X	X	X	X		X		X			X	X
E. Have students increased their level of generally useful interpersonal skills?	X	X	X	X		X		X			X	X
III. Increased Awareness of Work Values A. Have students increased their recognition of the bases of various work values?	X	X	X	X		X		X			X	X

OGLETOWN MIDDLE SCHOOL

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OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group	BRADLEY	BOWEN	CHAPMAN	CHELUCCI	EVANS	HICKEY	PFUHL	REISTER	SPINGLER	STATLEN	STREIN	TABO
Outcome Questions	6-8	6-8	6-8	6-8	6-8	6-8	5-8	6-8	6-8	6-8	6-8	6-8
Increased Desire to Engage in Paid and/or Unpaid Work B. Do students possess more positive attitudes toward paid and unpaid work?						X			X		X	
IV. Increased Awareness and Knowledge about Work A. Have students increased their knowledge regarding the major duties and required abilities of different types of paid and unpaid work?			X	X		X					X	
B. Have students increased their knowledge of differences in work conditions and life styles associated with different types of paid and unpaid work?		X	X	X		X			X		X	
C. Have students increased their knowledge of entry requirements for major types of paid and unpaid work?		X	X	X		X					X	

OGLETOWN MIDDLE SCHOOL

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OGLETOWN MIDDLE SCHOOL

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OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group Outcome Questions	WALLS	YULDUZIAN	SCHNECK																	
	6-8	6-8	6-8																	
D. Have students increased their knowledge of the impact of social and technological change in paid and unpaid work?		X																		
E. Have students increased their knowledge of the important factors that affect work success and satisfaction?		X	X																	
V. Increased Career Decision-Making Skills A. Have students increased their ability to associate their own abilities and limitations with possible success in present or future paid or unpaid work?		X																		
B. Have students increased their ability to relate their personal interests and values to types of paid and unpaid work and their associated life-styles?		X	X																	

OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group	BRADLEY	BOWEN	CHAPMAN	CHELUCCI	EVANS	HICKEY	PFUHL	REISTER	SPINGLER	STATLER	STREIN	TABO
Outcome Questions	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8
C. Have students increased their ability to (a) identify, (b) locate, and (c) utilize sources of information to solve career decision-making problems?	X	X							X		X	
D. Have students increased their ability to determine the potential for future advancement/personal growth in work of their choosing?	X	X	X			X			X		X	
E. Have students increased their knowledge of the steps to be taken and the factors to be considered in career planning?		X				X						
F. Have students increased their active involvement in career decision-making?	X	X	X	X		X					X	

OGLETOWN MIDDLE SCHOOL

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OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group	BRADLEY	BOWEN	CHAPMAN	CHELUCCI	EVANS	HICKEY	PFUHL	REISTER	SPINGLER	STATLER	STREIN	TABO
Outcome Questions	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8
VI. Improved Work Habits A. Are students able to plan work effectively?		X										
B. Are students more adaptable to varied work situations?	X	X										
C. Do students have a more positive attitude towards the concepts of quality in relation to a work task?		X									X	
D. Do students have a more positive attitude towards conservation of environmental and human resources in accomplishing work tasks?											X	
E. Do students have a more positive attitude towards responsibility for their own behavior and accomplishment of self-imposed work tasks?	X	X									X	

OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group	Outcome Questions										
		WALLS	YULDUZIAN	SCHNECK							
VI. Improved Work Habits	A. Are students able to plan work effectively?	6-8	6-8	6-8							
	B. Are students more adaptable to varied work situations?										
	C. Do students have a more positive attitude towards the concepts of quality in relation to a work task?										
	D. Do students have a more positive attitude towards conservation of environmental and human resources in accomplishing work tasks?										
	E. Do students have a more positive attitude towards responsibility for their own behavior and accomplishment of self-imposed work tasks?										

OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group	BRADLEY	BOWEN	CHAPMAN	CHELUCCI	EVANS	HICKEY	PFUHL	REISTER	SPINGLER	STATLER	STREIN	TABO
Outcome Questions	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8
F. Do students demonstrate an increased desire for continuous learning both in school and out?		X										
VII. Increased Work Seeking and Work Getting Skills A. Have students increased their ability to (a) identify, (b) locate, and (c) utilize sources that contain information about paid and unpaid work?		X									X	
B. Have students increased their skills required in (a) applying for, and (b) accepting work?		X									X	
VIII. Placement A. How many students have been placed or are engaged in further education and how does this compare with prior years?												

OGLETOWN MIDDLE SCHOOL

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OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group	BRADLEY	BOWEN	CHAPMAN	CHELUCCI	EVANS	HICKEY	PFUHL	REISTER	SPINGLER	STATLER	STREIN	TABO
Outcome Questions	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8	6-8
B. How many students have been placed in a paid occupation, and how does this compare with prior years?												
C. Of those placed in (a) further education, and (b) employment, how many consider the placement to be consistent with their career plans?												
D. Of those not placed in further education or in a paid occupation, how many are engaged in (a) unpaid work consistent with their career plans, and how does this compare with prior years?												
IX. Increased Awareness of Means for Continued Education A. Have students increased their ability to identify sources of additional education in major types of paid and unpaid work?										X	X	

OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group	Outcome Questions	WALLS	YULDUZIAN	SCHNECK										
					6-8	6-8	6-8							
B. How many students have been placed in a paid occupation, and how does this compare with prior years?														
C. Of those placed in (a) further education, and (b) employment, how many consider the placement to be consistent with their career plans?														
D. Of those not placed in further education or in a paid occupation, how many are engaged in (a) unpaid work consistent with their career plans, and how does this compare with prior years?														
IX. Increased Awareness of Means for Continued Education A. Have students increased their ability to identify sources of additional education in major types of paid and unpaid work?														

OUTCOME QUESTION/TREATMENT GROUP MATRIX

OGLETOWN MIDDLE SCHOOL

Treatment Group	Outcome Questions					
		6-8	6-8	6-8	6-8	6-8
	B. Have students increased their ability to identify, means to support additional education for themselves in major types of paid and unpaid work?					
BRADLEY		6-8				
BOWEN		6-8				
CHAPMAN		6-8				
CHELUCCI		6-8				
EVANS		6-8				
HICKEY		6-8				
PFUHL		6-8				
REISTER		6-8				
SPINGLER		6-8				
STATLER		6-8	X			
STREIN		6-8	X			
TABO		6-8				

OGLETOWN MIDDLE SCHOOL

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APPENDIX B

ETS SECOND QUARTERLY REPORT

Quarterly Report
"Career Education Instructional System Project"

Newark School District
Newark, Delaware

USOE Grant No. OEG-74-0955

Project No. V000IVW

The information in the quarterly report is based upon Educational Testing Service's involvement with the Newark, Delaware Career Education Instructional System Project between April 1, and June 30, 1975. ETS's evaluation activities during this period were primarily concerned with the collection and preliminary analysis of CEIS project related data for formative evaluation purposes and as input for the development of an evaluation design. Also, the data collected were used to develop the Outcome Question / Treatment tables.

A fifteen item questionnaire was developed by ETS for self-administering to all teachers involved with the CEIS project. On May 15 and 16, 1975 ETS evaluation staff visited the CEIS project direction staff and each of the school CEIS coordinators to discuss the data collection activities. ETS staff explained to the coordinators how to complete the questionnaire and additional copies were provided for each of the CEIS teachers within the schools. The coordinators were requested to complete the questionnaire by May 23, 1975 and to forward the completed questionnaires to the CEIS project direction staff for return mailing to ETS.

Due to close of school activities the return date for the questionnaires was extended to June 20, 1975. As of this date 91% (N=51 teachers) of the 57 teachers involved in the CEIS project returned their questionnaires. A discussion of the questionnaires' findings and preliminary

analyses follows.

In order to learn what sources of information have been provided by the CEIS project staff related to implementation of the CEIS curriculum units the teachers were asked to identify specific sources of information. Table 1 shows the number and percent of teachers using specific sources of information.

Table 1

Number and Percent of Teachers Using Specific Sources of Information

<u>Rank</u>		<u>Number of Teachers</u>	<u>Percent of Teachers Responding</u>
1.	Copies of reports from career education projects re implementation	37	74%
2.	Textbooks, periodicals, journals	36	72%
3.	Relevant reference materials	34	68%
4.	Periodic meetings and discussions with project staff	33	66%
5.	Project memoranda	32	64%
6.	Instructional manuals	30	60%
7.	School level administrative staff	20	40%
8.	District director of curriculum or instruction	18	36%
9.5	District level administrative staff	17	34%
9.5	Media presentations	17	34%
11.	District-wide meetings with instructional staff involved in the project	16	32%
12.	Test materials and manuals	12	24%
13.5	University Staff	4	8%
13.5	Others:	4	8%

Total N of teachers = 50

Not unrelated to sources of information provided by the CEIS project was the feedback requested from the project staff concerning the development and implementation of the curriculum units by the teachers. As shown in Table 2 the distribution of responses concerning the amount of feedback requested approximates a normal distribution. Six percent (N = 3 teachers) of the teachers indicated that an extensive amount of feedback was requested, 40% (N = 40 teachers) a moderate amount, 48% (N = 48 teachers) a minimal amount and 6% (N = 3 teachers) indicated that no feedback was requested.

Table 2

CEIS Project Feedback

<u>Amount of Feedback</u>	<u>Number of Teachers</u>	<u>Percent of Teachers Responding</u>
Extensive amount of feedback	3	6%
Moderate amount of feedback	20	40%
Minimal amount of feedback	24	48%
No feedback requested	3	6%
Total N of teachers = 50		

The teachers were also asked to indicate the number of times during the school year 1974-75 that they were contacted by the CEIS project staff. The median response reported by the teachers was 3 contacts. This suggests that the teachers were contacted by the project staff about once every 15 weeks during the school year 1974-75. The teachers also reported that the CEIS project staff conducted staff meetings about twice a year.

In order to provide information to the CEIS project staff about the overall quality of the 195 curriculum units developed and implemented the teachers

were asked to indicate the relative degree of modification needed to improve the quality of the units. The areas of modification were: (1) format, (2) style, (3) goals and objectives, (4) instructional methodology, (5) content, and (6) evaluation. Each of the teachers indicated the relative degree of modification required ranging from extensive modification to no modification. Table 3 indicates that 91% of the teachers reported that the curriculum units format required no modification, 90% reported that the units style required no modification, 86% reported that the units goals and objectives required no modification, 85% reported that the units instructional methodology and content required no modification and 77% reported that the units evaluation procedures required no modification.

Table 3

Degree of Curriculum Units Modification Required

<u>Areas of Modification</u>	<u>Degree Required</u>			
	<u>No Modification</u>		<u>Extensive Modification</u>	
	<u>Number of Teachers</u>	<u>Percent of Teachers Responding</u>	<u>Number of Teachers</u>	<u>Percent of Teachers Responding</u>
Format	43	91%	4	9%
Style	42	90%	5	10%
Goals and Objectives	42	86%	6	14%
Instructional Methodology	31	85%	7	15%
Content	41	85%	7	15%
Evaluation	36	77%	11	23%
Total N of teachers = 50				

The teachers were also asked to indicate their opinion of how well their students liked the curriculum units. As displayed in Table 4, 70% of the teachers reported that the students liked the units very much and 30% reported that the students liked the units somewhat. None of the teachers reported that the students were displeased or turned off by the units. A comparison of the percentages between the elementary and middle schools is interesting. Eighty-five percent (N = 22 teachers) of the elementary school teachers reported that their students liked the units very much as compared to 52% (N = 13 teachers) of the middle school teachers reporting in the same category. Likewise, only 15% of the elementary school teachers reported that their students liked the units somewhat as compared to 44% of the middle school teachers.

Table 4

Teachers' Opinions of How Well Students Liked Curriculum Units

<u>Response Category</u>	<u>Elementary School Teachers</u>		<u>Middle School Teachers</u>		<u>Totals</u>	
	<u>Number</u>	<u>Percent of</u>	<u>Number</u>	<u>Percent of</u>	<u>Number</u>	<u>Percent of</u>
	<u>of Teachers</u>	<u>Teachers Responding</u>	<u>of Teachers</u>	<u>Teachers Responding</u>	<u>of Teachers</u>	<u>Teachers Responding</u>
Students liked units very much	22	85%	13	55%	35	70%
Students liked units somewhat	4	15%	11	45%	15	30%
Students were generally displeased but tolerated units		0%		0%		0%
Students were turned off by units		0%		0%		0%
Total N of teachers = 50						

When the teachers were asked the question: Was any of the material covered

by the units presented to the students prior to the implementation of the CEIS project? 62% (N = 31 teachers) responded by saying yes. Table 5 on the following page illustrates the teachers estimate of the percentage of materials covered for each of the schools participating in the CEIS project.

The mean percent of the materials covered for the teachers responding yes, the mean percent across all teachers, and the range of percents for elementary and middle schools are presented below.

	<u>Elementary Schools</u>	<u>Middle Schools</u>	<u>Total</u>
$\bar{x}$ Percent Responding Yes	30%	39%	33%
$\bar{x}$ Percent All Teachers	21%	34%	26%
% Range	0%-75%	0%-100%	0%-100%

The data presented in Table 5 and above indicates that approximately 26% of the material covered in the units developed by the CEIS project was presented before the project was implemented. At the middle school level 34% of the material was covered before the project was implemented as compared to 21% at the elementary school level. Ogletown Middle School reported the highest percent covered (percent = 42%) and Cobbs Elementary School the lowest percent (percent = 9%).

The responses to the question: What specific types of assistance would you like to see the project direction staff make available to you for the development and implementation of the career education curriculum units? are found in Table 6 on page 8. The types of assistance requested are rank ordered from the most frequently to the least frequently requested. As shown in Table 6 the most frequently requested type of assistance was funds for

Table 5

Percent of Material Covered In Units Prior to Implementation of CEIS Project

	Elementary Schools		Leasure	Maclary	McVey	Wilson	Middle Schools		Ogletown
	Brookside	Cobbs					Central	Gauger	
Percent Range	0%-25%	0%-25%	0%-30%	0%-50%	0%-75%	10%-25%	10%-60%	20%-40%	0%-100%
Total N	5	4	5	5	6	2	3	4	12
N Responding Yes	2	2	4	4	4	2	3	4	9
$\bar{x}$ Percent Responding Yes	25%	18%	29%	43%	49%	15%	32%	28%	56%
Combined $\bar{x}$ Percent	13%	9%	23%	34%	33%	15%	32%	28%	42%

purchasing special curriculum materials, equipment or supplies. The least frequently requested type of assistance was greater professional supervision of teachers implementing the curriculum units.

Table 6

<u>Project Assistance Requested By Teachers</u>		
<u>Type of Assistance</u>	<u>Number of Teachers</u>	<u>Percent of Teachers Responding</u>
1. Funds for purchasing special curriculum materials, equipment or supplies.	38	76%
2. Release time for developing and refining current curriculum units.	26	50%
3. Inservice preparation for instructional staff.	25	50%
4. Resource personnel in career education.	20	40%
5. Greater professional supervision of instructional staff.	12	24%
6. Others: Teacher Aides.	4	8%

Total N of teachers = 50

The teachers were also asked to identify constraints that might prevent them from implementing the units in their classroom. Table 7 reveals that 60% (N = 30 teachers) of the teachers reported that funds are needed to purchase special supplies and equipment before the units can be implemented. The second most frequently reported constraint (N = 16 teachers) was the need for inservice teacher training prior to unit implementation. Only one of the teachers reported that lack of direction and guidance by the CEIS project staff prevented the units from being implemented.

Table 7

Constraints Preventing Implementation of Curriculum Units

<u>Types of Constraints</u>	<u>Number of Teachers</u>	<u>Percent of Teachers Responding</u>
1. Funds needed to purchase special supplies and equipment before the units can be implemented.	30	60%
2. Specialized teacher preparation required before the units can be introduced.	16	32%
3. The implementation of the units takes too much time away from other subjects.	8	16%
4. The units were poorly developed and are inappropriate for use in the classroom.	5	10%
5. The school administration is not supportive of the implementation of the units.	3	6%
6. Lack of direction and guidance by the project staff.	1	2%
7. Directions are not clear as to how the units are to be implemented.	0	0%

Total N of 50 teachers = 50.

On the following page, Table 8 displays the instructional methods used by CEIS teachers in presenting the curriculum units. The number and percent of teachers using each of the types of methods in elementary and middle schools and the total number and percent across both school levels are presented.

Table 8

Instructional Methods Used by CEIS Teachers

<u>Types of Methods</u>	<u>Elementary School</u> <u>Level</u>		<u>Middle School</u> <u>Level</u>		<u>Totals</u>	
	<u>Number</u> <u>of</u> <u>Teachers</u>	<u>Percent of</u> <u>Teachers</u> <u>Responding</u>	<u>Number</u> <u>of</u> <u>Teachers</u>	<u>Percent of</u> <u>Teachers</u> <u>Responding</u>	<u>Number</u> <u>of</u> <u>Teachers</u>	<u>Percent of</u> <u>Teachers</u> <u>Responding</u>
1. Class Discussions	26	100%	22	92%	48	96%
2. Audio Visual Materials	25	96%	18	75%	43	86%
3.5 Teacher Demonstrations	16	62%	21	88%	37	74%
3.5 Self-Directed Study	21	81%	16	67%	37	74%
5. Teacher Lectures	19	73%	17	71%	36	72%
6. Student Work Sheets	14	54%	19	79%	33	66%
7. Bulletin Board Displays	21	81%	9	38%	30	60%
8. Visitors	20	77%	7	29%	27	54%
9. Role Playing	16	62%	10	42%	26	52%
10.5 Field Trips	16	62%	9	38%	25	50%
10.5 Curriculum Infusion	16	62%	9	38%	25	50%
12. Group Counseling	7	27%	9	38%	16	36%
13. Simulation	7	27%	7	29%	14	28%
14. Testing	3	12%	6	25%	9	18%
15. Work Study	0	0%	4	17%	4	8%
16. Career Days	1	3.9%	2	8%	3	6%
17. Interning	0	0%	2	8%	2	4%
18.5 Career Clubs	1	3.9%	0	0%	1	2%
18.5 Co-operative Education	0	0%	1	4%	1	2%
20. Others: Assemblies Art Projects Models Reading Rack	2	7.7%	1	4%	3	6%

For both school levels the five most frequently reported methods of instruction are class discussions, audio visual materials, teacher demonstrations, self-directed study and teacher lectures. Analysis between the levels reveals some interesting comparisons. For example, 68% of the elementary school teachers reported using field trips and curriculum infusion methods of instruction as compared to only 38% of middle school teachers.

In order to determine the relative degree of emphasis of the CEIS project the teachers were asked to indicate which of the nine student outcome statements (goal areas) listed in the Federal Guidelines for Evaluation were covered or related to each one of the curriculum units developed. Table 9 on the following page displays the frequency of responses in each of the nine student outcome statements (goal areas) as judged by the teachers.

As shown in Table 9, 84% (N = 130 units) of the 155 units developed relate to improving basic academic and vocational skills with approximately the same percentage found at the elementary and middle school levels. Awareness and knowledge of the world of work is covered by 79% (N = 120 units) of the units. Seventy-one percent of the units at the elementary school level deal with awareness and knowledge of the world of work and 86% at the middle school level. Seventy-eight percent (N = 120 units) of the units deal with awareness of work values and the desire to work. At the elementary school level 73% of the units deal with this student outcome statement as compared to 83% at the middle school level. Competency in career decision making is covered by 77% (N = 118 units) of the units with 72% of the elementary units and 81% of the middle school units covering this area. Increased self awareness is found in 48% (N = 71 units) of the units. Forty percent of the elementary school units and 55% of the middle school units relate to this outcome area. Less than 21% (N = 35 units) relate to work seeking and work getting skills, placement in an occupation or further education, or awareness of means of continued education. The student

outcome statements noted with an asterisk require third-party evaluation as specified in the Federal Evaluation Guidelines.

Table 9

Student Outcome Statements (Goal Areas) Related to Curriculum Units

<u>Student Outcome Statements</u>	<u>Elementary School Level</u>		<u>Middle School Level</u>		<u>Totals</u>	
	<u>Number of Units</u>	<u>Percent of Units</u>	<u>Number of Units</u>	<u>Percent of Units</u>	<u>Number of Units</u>	<u>Percent of Units</u>
* I. Increased Self Awareness	36	40%	35	55%	71	48%
II. Basic Academic and Vocational Skills	76	83%	54	84%	130	84%
III. Awareness of Work Values-Desire to work	67	73%	53	83%	120	78%
* IV. Awareness and Knowledge of World of Work	65	71%	55	86%	120	79%
* V. Competency in Career Decision Making	66	72%	52	81%	118	77%
VI. Good Work Habits	27	30%	8	12%	35	21%
VII. Work Seeking and Work Getting Skills	6	7%	15	23%	21	15%
VIII. Placed in Occupation or Further Education	0	0%	0	0%	0	0%
IX. Awareness of Means of Continued Education			2	3%	0	1.3%

Total number of units at elementary level - 91

Total number of units at middle level - 64

The previous section of the report discusses ETS's evaluation activities related to the collection and analysis of data for formative evaluation purposes. ETS has also used the data collected for the development of the Outcome Question/Treatment tables. Since the teacher questionnaires were not

returned until shortly before the end of the second quarter, ETS has not as yet completed the tables and therefore they are not included as work products for the second quarter.

ETS is presently using the information collected through the teachers' questionnaires for developing an evaluation design.

Conceptually, ETS's preliminary plans call for a tailor made evaluation design. Using this design each class involved in the project (presented a curriculum unit) will be assessed only on those student outcomes which the unit has been shown to be related. Also, to find out if the units have any effects on student behavior each class will be assessed immediately before and after the presentation of the units. This design is proposed in place of the more typical fall and spring pre and post testing design in order to increase the probability of assessing the effects of the units.

APPENDIX C

MEASURES REVIEWED FOR USE
IN CEIS PROJECT

Measures Reviewed for Possible Use
in CEIS Project FY 75-76

The instruments listed below were chosen for review based upon annotated bibliographies of the ETS test collection. Additional instruments were rejected without review as (1) inappropriate for the age groups to be included in the evaluation of the Career Education Instructional Systems Project, or (2) not measuring the project objectives.

Self-Awareness - Grades 3,6,8

"Self-Esteem Inventory", Stanley Coopersmith. In The Antecedents of Self-Esteem by Coopersmith; W.H. Freeman and Co., San Francisco, 1967.

Comment: No grade level norms; insufficient technical data.

"Self Report - Inferred Self-concept Scale" ("About Me"). James Parker, in "The Relationship of Self Report to Inferred Self-concept" by James Parker in Educational and Psychological Measurement, 1966, 26, 291-700.

Comment: No norms data, no reliability reported.

"How I See Myself," Ira J. Gordon, Florida Educational Research and Development Council, University of Florida, Gainesville, 1968.

Comment: Well documented, but response made is more difficult for young children than that used in the Piers-Harris scale.

"Piers-Harris Children's Self-concept Scale" ("The Way I Feel About Myself"). C. Piers and D. Harris, Counselor Recordings and Tests, Nashville, Tennessee, 1969.

Comment: Well documented, reviewed favorably in Buro's Mental Measurement Yearbook, 5th Edition. Format requires only a yes-no response.

Career Knowledge - Grades 3, 6

"Career Education Cognitive Questionnaires", B. Rader and K. Nelson, Minnesota Research Coordinating Unit for Vocational Education, University of Minnesota, Minneapolis, 1975.

Comment: Field testing involved a relatively limited sample, but instruments are presently being used to evaluate a number of Part D projects, and additional data should be available soon. Quality of printing on instruments is not uniformly high. Recommended by USOE Guidelines for Evaluation.

" Career Education Needs Assessment, " A. Blome and G. Rask, Olympus Publishing Co., Salt Lake City, 1975.

Comment: Good face validity in instrument for grades 4-6, but no technical data was available, K-3 instrument requires individual administration.

Career Knowledge and Decision-Making - Grades 4-6

"Readiness for Vocational Planning" by Donald Super. In Emerging Careers by Warren D. Gribbons and Paul R. Lohnes, Teacher's College Press. Columbia University, New York, 1968.

Comment: Requires individual interviews, not appropriate for evaluation.

"Career Development Inventory," Donald Super and David J. Forrest. Teacher's College, Columbia University, New York, 1972.

Comment: Not published; requires weighted scoring; includes attitudinal and cognitive scales; data available from only one study of 400 tenth grade students in Michigan.

"Guidance Inquiry," M.Katz. ETS, Princeton, N.J.

Comment: No longer available: redesigned as an instructional program.

" Assessment of Career Development, Grades 9-12," American College Testing Program, Houghton Mifflin Company, Atlanta (Boston), 1974.

Comment: Well documented, more comprehensive than others reviewed, good match of project objectives and test subscales; requires 125 minutes of test time. Recommended by USOE Guidelines for Evaluation.